FEEDSTUFFS®

★ A WEEKLY NEWSPAPER ★

FOR THE FEED MANUFACTURER, JOBBER, BROKER and DEALER

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Price Guarantee Removed from GMI, Hurst Egg Program

KANSAS CITY—Egg producers in Kansas who went into the cage egg laying business under a contract with Hurst Foods, Inc., and a General Mills, Inc., feed management program are now marketing their eggs under a new contract.

The widely-publicized guaranteed floor feature of the contract has been eliminated. Otherwise, the marketing contract is unchanged, calling for Hurst to pay 2¢ doz. premium over the quoted Kansas City market price for Grade A eggs.

The new arrangement has no other effect on the program, said P. M. Waters, south central division sales manager for GMI. Hurst Foods will continue to sell General Mills "Sure-Fresh" cage-laid eggs in stores throughout Kansas City, and the eggs will continue to come from those producers whose feeding and management programs are closely regulated by General Mills to control quality of the eggs.

Guarantee a Problem

The change in the contract arrangement stemmed from difficulty in keeping up with the guaranteed price payments to cooperating producers, said Bill Hurst of Hurst Foods. The program was started about 15 months ago, with Hurst

(Turn to GMI PROGRAM, page 99)

FEEDSTUFFS ANALYSIS TABLE

FEEDSTUFFS' 1958 Feed Analysis Table, copyright by Charles H. Hubbell, appears on pages 84-85 of this issue. Reprints of the table and of the notes that accompany it are available from FEEDSTUFFS, P.O. Box 67, Minneapolis 1, Minn. The price for single copies is 15¢. For orders of 3 to 5, the price is 10¢ each. Quantities of 10 or more may be obtained at a price of 5¢ each. Colleges and experiment stations will be furnished a reasonable number of reprints for their own use free of charge on request.

No Change in Spring Pig Crop Estimate Seen

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—Farmers are apparently increasing pig production this spring to a lesser extent than had been expected recently in view of the extremely favorable corn-hog price ratio. It now looks as though the spring pig crop will be no larger than forecast last December.

However, looking a little further ahead, a substantial boost in the pig crop during the first part of the fall pig crop period is now indicated.

The U.S. Department of Agriculture reported this week that on the basis of a March 1 survey, the number of sows farrowing in 10 Corn Belt states during the spring period (December-May) will be 6% larger than a year earlier. This is in line with U.S. farmers' expressed intentions last December.

USDA estimated 5,702,000 sows to farrow in the 10 Corn Belt states from December through May—up 6% from the total of 5,404,000 farrowed a year ago in the same period.

Last December, a crop of 56 million pigs—up 6% from a year earlier—was indicated. Based on the indications in the special report for the 10 important Corn Belt states, it now looks as though the U.S. spring crop will be about in line with the earlier indications.

Showing Restraint

Once again, swine farmers in the Corn Belt appear to have shown restraint in not following to an extreme degree the attraction of the very favorable price situation which has existed in recent months—an attraction which until recent years has been a certain index of a broad expansion in hog numbers.

USDA livestock economists expressed surprise at the results of the March report, saying that either the hog farmer is a lot wiser today or that Secretary Benson and others must be given some credit for power of persuasion of this segment of the farm economy.

In connection with the spring pig crop report, it should be noted that the report carries a somewhat bearish tone for corn prices, since it reflects a less than expected swine industry demand for the big feed grain crop of the Corn Belt.

State Changes

The 10 states covered in the quarterly pig crop report are Ohio, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, South Dakota, Nebraska and Kansas. All but Ohio

(Turn to PIG CROP, page 99)

Iowa Feeder Pig Import Ban May Hurt Feed Sales

By JAMES E. SHARON
Feedstuffs Staff

DES MOINES, IOWA—A ban placed earlier this month on shipment of feeder pigs into Iowa, in an effort to combat threatening disease conditions, was expected to be lifted slightly by the first of next week, according to Clyde Spry, state secretary of agriculture, whose department issued the embargo.

An increasing incidence of hog cholera and lung infections among imported feeder pigs, especially those shipped in from points as far south as Louisiana, Mississippi and Alabama prompted the action, Mr. Spry said. When it was issued March 11, the embargo was said to be "for an indefinite period."

The situation, if it continues, obviously would have a widespread effect on feed sales throughout the state, if large numbers of feeder pigs are kept out of the state. Representatives of several Iowa feed companies said March 21 they were watching the matter closely, although they had not felt its effects as yet. They said they were urging farmers who had bought out-of-state pigs to watch them closely and to carefully consider

(Turn to FEEDER PIGS, page 103)

Nearly 500 Hear Nutrition Talks at Maryland Event

JAMES W. MILLER
Feedstuffs Staff

WASHINGTON — Stressing recent Maryland nutrition research and featuring discussions by guest speakers, the annual Maryland Nutrition Conference this week attracted an attendance of nearly 500 persons.

The conference, sponsored by the University of Maryland, was held March 20-21 at the Shoreham Hotel in Washington.

Although a heavy spring snowstorm raged throughout the first day and a half, by late March 20 registrations reached 460, and it was thought that the total might equal last year's 500 total by the end of the two-day session. The conference has earned considerable attention from the feed industry throughout the U.S.

One of the highlights of the meeting was the news of the current Maryland broiler tests yielding 1-lb. birds at three weeks of age on less than 1 lb. of feed per bird. (See story on page 7.)

The conference included reports on various aspects of Maryland poultry work on minerals, protein and energy, fats and other nutrients, along with reports on swine and ruminant studies. Among the guest speakers, discussing ruminant, poultry and swine nutrition, were Dr. G. K. Davis of the University of Florida, Dr. James McGinnis of Washington State College and Dr. Damon V. Catron of Iowa State College.

Condensations of the speakers' talks follow:

STUDIES WITH PRACTICAL BROILER RATIONS—Dr. G. F. Combs, University of Maryland: In studies of fat level and pelleting, mash rations containing 10% added

(Turn to MARYLAND, page 103)

William Hunter Dies At San Francisco

SAN FRANCISCO — William L. Hunter, 49, chief of the bureau of field crops California Department of Agriculture, died suddenly at his home, in San Francisco, March 16. Death was attributed to heart failure.

Mr. Hunter was appointed chief

(Turn to WILLIAM HUNTER, page 99)

FEEDSTUFFS *Features This Week*

MILL MANAGING: Feed mill and elevator managers will find a management check list on **page 18.**

STILBESTROL: Research on new methods of using stilbestrol supplements is reported on **page 32.**

CUSTOM MILLING: Another in a series of articles on custom mill operations appears on **page 86.**

FEED MIXING: A discussion of feed mixers and mixing is on **page 48.**

MERCHANDISING: A New York firm's roadside display unit is described on **page 40.**

PUBLIC RELATIONS: A public relations program for small businesses is outlined on **page 20.**

— REGULAR FEATURES —

Joe Brooks	28	Worth Looking Into	68
Feed Service Bulletin Board	35	Convention Calendar	78
Up or Down	60	Classified Ads	96
Camera Views	64, 92	Feed Markets in Detail	100

APHF Proposes National Egg Commodity Group

KANSAS CITY—A national commodity organization of egg producers within the framework of the American Poultry & Hatchery Federation is being considered by the executive committee of the APHF.

Committee members announced this week that such a plan will be proposed at the American Poultry Congress & Exposition in Cleveland this summer. They will ask the board of directors of APHF to ratify the plan at that time.

Purpose of the organization, they

(Turn to EGG GROUP, page 99)

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Some Business Is Good

THE current recession, which in spite of its seriousness to those directly affected, seems at this point to be worrying politicians more than businessmen. Even in those industries which have experienced cutbacks in their volume, there is much optimism about a turnaround before too long, according to business analysts. Many observers also predict that while the slowdown may extend longer than expected earlier, there is still a good chance that the slide is "bottoming out" and that 1958 can end on an upbeat. One of the healthy signs cited by economists is that industrial inventories have reached a point where expanded buying is considered almost mandatory.

While the contrast between attitudes in Washington and in the business community should not be unexpected, because of the proximity of election campaigns, it is not necessarily what one would consider "normal." There are some more curious twists to the situation, such as rising price levels at a time when business activity is slowing down and competition would normally be expected to lower price tags.

Also, unemployment totals continued to climb in February, while the size of the work force, against which the percentage of unemployed is calculated, made a "fantastic" climb, according to U.S. Department of Labor officials. This was due, they explained, to young and old folks and wives looking for jobs and thus adding to the statistically unemployed. A large part of the unemployment rise therefore was not due to layoffs.

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THESE factors, and the many others from which students of the economy can draw conclusions about the nature and life expectancy of the recession, provide plenty of raw material for analysis. The appearance of new yardsticks, indexes, projections and countdowns in the business publications and newspapers offer one all the opportunity needed for reading and fretting. Perhaps more than is needed.

Interest in the health of the general economy, of course, is important to a good businessman and good citizen no matter what his occupation might be. However, there should be no tendency to reach altogether gloomy conclusions on the basis of what they see in today's top headlines. This is particularly true for men in the feed business and those who are in industries allied with the feed business.

The truth is that the nation's livestock economy, on which the feed industry's present and future rest, is in sound condition. In fact, in contrast with many parts of the economy, animal agriculture is definitely in a state of high prosperity.

This fact is significant not only to the feed industry, but to business in general, and it deserves more attention than it has been getting.

For a refreshing slant on facts and figures, have a look at the agricultural side of the economic fence:

At Chicago this week, steers reached a five-year high of $37.50 cwt.

At the same market, hogs reached the highest average price since last September of $21.50 cwt.

Strong wholesale demand for meat, according to market reports, provides the propulsion for these advances—not just the fact that there have been lighter receipts. The wholesalers would not be in there bidding if the consumers weren't taking it out of the stores.

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NOW let's back farther down the livestock production line. Here's what the Record Stockman, a Denver publication for cattlemen, said in an editorial last week: "Up and down the alleys at the Denver market and at the region's purebred cattle sales, there's a spirit of driving optimism which is in strong contrast to depression over the national economy.

"Moisture has been general, feed carryover is heavy, and cattle prices have moved radically higher than prices of a year ago. And there just aren't enough stocker and feeder livestock to go around. Top breeding stock is in broad demand, and ranchers are smiling again."

Here's what The Corn Belt Farm Dailies say: "In sharp contrast to the belt-tightening in general business circles, livestock farmers have been pocketing the highest returns in several years from marketings of meat animals during the first two months of 1958."

An illustration of what these price rises have meant to meat producers also is provided by these publications. On the basis of February prices, a producer had to sell only 21 hogs at 230 lb. to collect $1,000. A year earlier he had to sell 25 to realize that sum. In only four years of record could the hog raiser get $1,000 for 21 hogs of that weight on a February market.

And this comparative prosperity in animal agriculture is not likely to be just a temporary thing. According to practically all of the competent authorities on the subject, cattle markets, while likely to face a downturn in the spring, are expected to hold comparative strength for many months ahead. The U.S. Department of Agriculture's pig crop report, issued just this week, indicates that producers are holding plans for expansion of their operations in check, which in turn promises to maintain good hog prices through the year.

No one needs to tell most feed men what this type of a market situation means to feed sales volume and prospective feed sales volume. From all indications, particularly from the very active ingredient trading in recent weeks, sales volume has been better than usual for this time of the year. It is probable that volume will continue to expand, because there is nothing like favorable markets for livestock products to encourage farmers to do the right kind of feeding. The poultry side of the business, too, can be expected to contribute a healthy share to tonnage, as egg markets are strong and promise to advance further. Broiler and turkey feed business also appears to be holding up well.

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IT would be less than realistic to not recognize that a long-term recession—which practically no one predicts now—probably could eventually hurt food demand. However, it is equally certain that consumer expenditures for food are the last to be cut back when a money pinch occurs.

At this time there seems little question that demand for livestock and poultry products will hold firm, and that because of excellently timed prosperity in the livestock industry, feed business prospects are good.

It might be somewhat optimistic, but the economy as a whole could very well get a good shot in the arm from the good earnings of livestock producers. Someone has to buy the odd-looking automobiles which some people think might be at the bottom of this whole problem.

A FEEDSTUFFS FEATURE

FORMULA FEEDS: HOW'S BUSINESS?

General optimism continued in the formula feeds industry during the past week as sales continued at a good pace over much of the nation. Some resistance to rising ingredient prices was noted in some areas, but demand continued fairly strong in spite of it because of the growing demand for starters. Only the mountain states, where mild weather has affected feeding all winter, was there a report of slow feed sales. Other areas reported near average to better than average sales. The index of feed prices rose to 83.8 this week, compared with 81.9 the previous week and 81.3 the same week last year. The feed grain index, on the other hand, declined to 64, compared to 65.2 the week before and 72.8 a year earlier. (Feed ingredient details on pages 100-102.)

Northwest

Sales of formula feeds continued at a relatively strong pace during the week. Feed mill representatives said things were generally a "little better" than the previous week, and the previous week was a good one.

Prices went up again during the week with a top of around $2 on some concentrates. Millfeeds and grain fell off, however, and there were predictions that the price rise of formula feeds may not be quite so sharp during the coming week.

The rising ingredients market was credited with some of the sales increase, but representatives said demand was basically good because of the spring upturn. This was indicated in a good movement of all types of starter feeds. Hog and cattle feeds also continued to sell at high levels.

Mills were running at full capacity with some reports of extended shifts and Saturdays. Most were catching up with backlogs late in the week.

Soft corn continued to be a problem. It has been moving off the farms in spurts, but mill representatives reported that large amounts apparently were still on the farms of the area.

Mountain States

A considerable number of turkeys have been placed the past week. Although some of the smaller feeders have dropped out the larger operators will probably increase their flocks so the overall numbers will be larger than last year.

The February chick output was down in the area from last year about 3%.

Cattle feeding continued slow. Numbers were less than average and low prices on feed grains have lessened the demand for feed supplements. This trend of feeding straight grain is being encouraged by rising costs of most ingredients. There is an abundance of wet grain too, which cannot be safely stored. This all adds to the reason why formula feed sales are slow at this time.

Southwest

Demand for formula feed has picked up noticeably. Just exactly why is not clear, but feed men are happy with the upturn and are not questioning it. It may be that orders are more plentiful because buyers saw prices increase and decided to out-guess the market and stock up before they went higher. But it may also be that enough new stock has been started on feed to make a difference in the volume.

The weather has shown some improvement over the area. However, it was not believed that the full effects of dry roads and feed lots have been felt. A substantial increase in business is looked for when all roads again become passable so that farmers are able to get their baby chicks and buy feed for them. Improved

(Turn to MARKETS, page 104)

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Veto of Price Support Freeze Measure Seen

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — Following the lead of the Senate, the House this week passed the general "freeze" bill which would retain levels of price supports and acreage allotments of the 1957 crops for those grown in 1958.

The vote in favor of passage was 210 to 172, indicating to observers that, as in the case of the Senate, the proponents have little, if any, chance of over-riding the expected presidential veto. The measure now goes to conference. It is certain on the basis of previously uttered public comments that Secretary Benson will recommend a veto.

On the price support side of the measure, the chief commodities which allegedly would benefit from the "freeze" proposal would include wheat, where the support level for the new crop would be boosted to $2 bu. from the $1.78 level previously established by Secretary Benson as required by the flexible price support schedule of the farm act of 1949.

Dairy price supports would be reinstated at 82.5% of parity, rather than the 75% level ordered by USDA. Flaxseed price support would be increased by 24¢ bu., although the price support ordered for that crop for 1958 is the same percentage of parity that prevailed in 1957. However, the parity price for flaxseed dropped in the past year.

The "freeze" bill, it may be observed from those instances, rode rough-shod over most of the major farm policies as set forth in the farm act of 1949. It not only turns aside the flexible price support schedule but it halts parity adjustments as prescribed by law and would deny the yardstick for determination of price supports for non-basic storable commodities now available to the Secretary.

There is one minor difference between the two bills as passed by the respective chambers. The Senate bill is indefinite in duration, while the House bill would make the freeze effective only for one year. It is probable that a prompt conference agreement will be effected so that the measure can be sent to the White House before the April 1 deadline on which date the new level of price support for dairy products at 75% of parity takes effect.

California Poultry Proposal Revised; Financing Changed

SAN FRANCISCO — The proposed measure to establish a poultry promotion council in California has been amended from a mandatory to a referendum type bill by its author, California State Assemblyman Richard McCollister of Marin County.

According to the revised plan, poultrymen would be permitted to vote themselves on whether or not they wish to establish such a council, and 65% of those voting would be required to favor the council in order to establish such a body. A second amendment introduced by Mr. McCollister would provide that the financing would be done by the producers, and that collections could be made at any practical point of production or processing. The original measure would have placed a levy of 20¢ per ton on all poultry feeds.

The first bill was opposed by the California Hay, Grain & Feed Dealers Assn. on the grounds of inequities in collections.

The measure was heard last week by the Assembly Committee on Agriculture when an alternate amendment was proposed requiring approv-

(Turn to CALIFORNIA, page 99)

EDUCATED RABBIT—This popular display at the 13th annual conference of the Distillers Feed Research Council held recently in Cincinnati drew a great deal of attention, indicating that men are highly interested in rabbits. The rabbit, lower left, is called Popgun Pete. His act involves shooting a "cannon" and when he makes a bullseye he gets a few morsels of grain. The young lady's name is Naja Karamuru. She was on hand to help Pete with his act, or something like that.

Recovering From Accident Injuries

KANSAS CITY—Bruce Varney and Loren Burns, Agri-Tech, Inc., executives who were seriously injured in a car accident March 4 near Lawrence, Kansas, are making good progress toward recovery.

Mr. Varney was released from the hospital a week after the accident, and Mr. Burns was discharged March 19. This week, Mr. Varney has been spending part days at his office. He suffered a brain concussion and lacerations. On the mend at home and expected to be there for several weeks is Mr. Burns. His injuries included four broken ribs, a dislocated hip and severe facial lacerations.

Quad State Feed Convention Attracts 600 To Sioux City

By PAUL ANDERSON
Feedstuffs Staff

SIOUX CITY, IOWA—Some 600 feed, grain, seed and allied tradesmen from four states attended the seventh annual Quad State Grain, Feed and Seed Convention March 16-17 in Sioux City.

W. T. Diamond, secretary of the American Feed Manufacturers Assn., Chicago, told the group that "today is the day of opportunity for the feed man."

He pointed out that there is an expanding market for better feeds and feed service. However, he cautioned, "with this opportunity comes added responsibility. Feeds must meet the farmer's needs. Quality cannot be sacrificed for expediency."

He emphasized that young ideas are needed, but that mature judgment must be exercised.

"More new ingredients are being developed, especially for the feed industry," Mr. Diamond noted, "and the future will require more feeds for specific needs."

He expressed a hope that farmers will hold down production, but said he feels the current favorable prices for some farm commodities will encourage over-production.

"There is a fine line between too much and too little production," he said, "and all factors seem to indicate over-production and lower prices."

He said that when the margin between cost of production and selling price narrows, the farmer should utilize the best known feeding techniques. "But hog farmers, for example, do not do this. When prices are good they feed the hogs better," he commented.

Mr. Diamond predicted that current high purchases of chicks now will lower egg prices by fall, that fall and winter pig slaughter will be heavier and prices of barrows and gilts will be lower, and that prices of higher grades of beef cattle will drop to last year's levels by the middle of the summer.

Veterinarian Cooperation

Another convention speaker, Dr. John Aiken, South Sioux City, Neb., chairman of a Nebraska veterinarian committee working with feed men, pointed out that the veterinarian and the feed man are both serving the farmer and should cooperate in helping him do a better job.

"The competition for the dollar is where the trouble begins," he said. "The sale of health and sanitation products by feed men is not the problem. Treatment of animals without consultation with a veterinarian is the complaint." He added that cooperation of feed men and veterinarians will settle the differences.

Dr. Aiken was introduced to the group by Lloyd Larson, executive vice president of the Midwest Feed Manufacturers Assn., Kansas City. Following Dr. Aiken's address Mr. Larson made a slide presentation telling the story of how a veterinarian and a feed dealer worked out their problems by calling on farmers together and cooperating in other ways to best serve the farmer's needs.

Government in Grain Business

A need for concentrated efforts by seed, feed and grain associations to get the government out of the grain business was described by Madison Clement, Waco, Texas, president of the Grain & Feed Dealers National Assn.

He said at least nine associations are attempting to get the government out of the grain business and are urging that grain handling be done through regular trade channels.

Glenn Munger, Industrial Fumigant Co., Kansas City, emphasized the importance of sanitation in keeping grain from spoiling. He discussed liquid, powder and gaseous forms of fumigants that kill weevils and other grain-destroying bugs.

Another speaker was Raymond Pollock, director of the grain division, Commodity Stabilization Service, Washington, D.C.

Mr. Pollock spoke in favor of the policies of Mr. Benson. He said he would like to see a "return of farming to farmers, and grain business to the grain trade." He added that the farmers must decide if they want more freedom or more controls.

Mr. Pollock also mentioned that acreage controls do not control production, and that farmers again have proved it.

An unusual feature of the convention was a full length, closed circuit television coverage of a banquet address by Jeff H. Williams, "Oklahoma's Ambassador of Good Will." The telecast made it possible for 200 delegates in another party room—in addition to the 350 in the main ballroom—to see and hear the speaker.

The convention was sponsored by the Sioux City Grain, Feed & Seed Assn., as it has been since its beginning in 1952.

Egg-Type Chick Output Up 10% in February; March Gain to Be Smaller

WASHINGTON — Production of egg-type chicks in February was up a significant 10% from a year ago, but a smaller percentage gain is indicated for the more important month of March.

Chicks hatched in February for laying flock replacement totaled 61,875,000, compared with 56,269,000 in February last year. January-February production totaled 96.3 million, up 11% from a year earlier.

The demand for egg-type as well as broiler chicks is strong, and the March hatch is expected to be above a year ago. However, the percentage increase is lower than in January and February.

USDA says that the number of eggs in incubators for egg-type chicks on March 1 was 4% larger than a year ago. There is considerable variation among regions, with increases indicated for New England (12%), west north central states (16%), east south central states (11%), mountain states (4%) and Pacific Coast (2%), and decreases for the middle Atlantic region (1%), east north central states (5%), south Atlantic states (4%) and west south central states (14%).

The indicated 4% increase for March, one of the most important hatching months will bring egg-type chick production back more in line with farmers' previously expressed intentions for 1958. They reported in February plans to buy 6% more baby chicks this year than in 1957. An increase of this size would not bring a "bust" in the normal boom-bust cycle for egg production and prices.

All regions showed some increase in the February hatch of egg-type chicks as compared with a year earlier, with some regions showing larger gains than others. New England went from 3.8 million to 4.2 million, middle Atlantic from about 9 million to 9.6 million, east north central from 14 million to 14.5 million, west north central from 10.9 million to 13 million, south Atlantic from 4.2 million to 4.6 million, east south central from 2.2 to 2.8 million, west south central from 4.5 to 5 million, mountain states from 1.3 to 1.4 million, Pacific from 6.3 to 6.6 million.

USDA also reported on production of broiler chicks, noting that the February total was 136,262,000—up 11% from a year earlier. The number of eggs for broiler chicks in incubators on March 1 was 12% more than a year earlier.

Puerto Rico to Sell Molasses at 12¾c

NEW ORLEANS — Puerto Rican molasses producers have contracted to sell an estimated 2.6 million gallons of blackstrap molasses at 12¢ to 12¾¢ gal., the U.S. Department of Agriculture Molasses Marketing News reported this week.

The price is a gross price. The quality is 85 to 86 degrees brix.

The report also stated that sharply rising prices developed for feeding cane molasses in the Gulf and Midwest states during the week ended March 18. New Orleans price advanced half a cent or more to 13½ @14¢ gal.

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To provide conclusive data on the feed conversion of major coccidiostats, 21 leading feed manufacturers recently conducted extensive field tests. Starting in the fall of 1956, this impartial research was carried on over a period of 15 months and involved approximately 200,000 chickens.

Tests were made under direct supervision of feed manufacturers in every section of the country, under varied growing conditions in every season of the year.

The results of these comprehensive, scientific tests are charted to the right.

They furnish decisive proof that TRITHIADOL by Sterwin, the new, safer, better way to prevent coccidiosis, provides the BEST feed conversion of ALL coccidiostats tested.

FIELD TEST RESULTS

Coccidiostat*	Number of Chickens	Feed Conversion	Average Weight	Extra Profit per 1000 Birds Sold**
TRITHIADOL	63,452	2.42	3.22	$ 6.57
vs. COCC. A	74,498	2.48	3.19	—
TRITHIADOL	9,382	2.32	3.13	$38.81
vs. COCC. B	4,922	2.58	2.85	—
TRITHIADOL	17,317	2.38	3.33	$19.31
vs. COCC. C	20,596	2.50	3.29	—
TRITHIADOL	1,502	2.18	3.17	$37.85
vs. COCC. D	1,543	2.43	3.28	—

*Levels of use. Trithiadol 2 lbs/ton. Others as recommended.
**Saving in cost of feed resulting from use of Trithiadol. Cost of all coccidiostats used in tests figured at published selling prices.

Only Trithiadol *has all these major advantages:*

1. Effectively controls all economically important species of coccidia.
2. Completely safe for poultry; harmless to other warm blooded animals.
3. Superior feed conversion and weight gain.
4. Permits immunity to develop.
5. Displays no adverse effects on egg production, shell or interior quality.
6. Comparatively no effect on hatchability or fertility.
7. Is compatible with all commonly used feed ingredients.
8. Stable, free flowing, easily blended with feeds.

● *See your Sterwin Technically Trained Representative or write, phone or wire for further information.*

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Harold Davis Heads Oregon Trade Group

PORTLAND — At its 27th annual convention recently the Oregon Feed & Seed Dealers Assn. elected Harold Davis president. He is assistant manager of Buchanan-Cellers Grain Co., McMinnville.

Mr. Davis succeeds Fred Trullinger, manager of the Portland Seed Co.

A record crowd of nearly 600 members and representatives of allied industries attended the two-day meeting at the Multnomah Hotel.

Business conducted at the meeting included (1) establishing the Portland "metropolitan district," the group's eighth such division, as a means of helping garden supply and nursery stock groups successfully operate on the highly competitive market; (2) turning over a $550 check to the Oregon State College school of agriculture student loan fund (last year the group donated $650), and (3) electing officers.

Besides the president, new officers include Fenn Emerson, Albany, vice president, and Alex Runciman, Portland, secretary-treasurer. New directors are Fred West, William Barnes, Ralph Peyton and Tom Sullivan, all of Portland; Frank Parsons, Klamath Falls; Rudy Smith, Hillsboro; Myrle Thompson, Shedd, and Bob Holland, Beaverton. Russ Hays, Portland, is association manager.

The well-balanced convention included discussion and talks of both trade and general interest and included social activities for members and their wives.

A portion of the opening day was devoted to fertilizer industry topics with seed industry discussions during the afternoon.

Pesticides and insecticides were covered the following day.

Robert J. Steward, director of the Oregon State Department of Agriculture, told of Oregon's cattle feeding industry and the opportunity it offers for marketing surplus grain and hay through livestock.

The convention schedule included two social hours, a banquet for men, a ladies dinner and fashion show and an informal dance.

Texas Firm Doubles Grain Storage Space

CORPUS CHRISTI, TEXAS — An expansion program now being started at the Wuensche Grain & Elevator, Co., Inc., will make this the largest commercially operated grain elevator on the Coastal Bend.

Two steel tanks 90 ft. in diameter and 50 ft. in height will double the capacity of the elevator and give it a total storage capacity of 2 million bushels.

The Wuensche Grain & Elevator Co., Inc., began operations in 1954. President of the firm is John Wuensche, a pioneer grain dealer in south Texas. H. L. Eichelberger is vice president, and W. F. Wallace, secretary-treasurer.

Poultry Losses Total $672,000 in Alabama

ALBERTVILLE, ALA. — The damage by the February "blizzard" to the northern Alabama poultry industry was estimated at $672,000 by extension agents in nine of the counties hardest hit.

Dead birds accounted for $342,000, collapsed houses for $109,000 and other damages for $221,000 in Blount, Cullman, Franklin, Limestone, Madison, Marshall, Morgan, Walker and Winston counties.

The over-all count of dead birds came to 450,000 in Cullman, 250,000 in Winston and 145,000 in Marshall County.

Harold M. Williams

H. M. Williams Named President of IAPI

CHICAGO — Harold M. Williams will succeed Dr. Cliff D. Carpenter as president of the Institute of American Poultry Industries, Chicago, according to an announcement by William F. Leimert, IAPI chairman of the board.

Mr. Williams was formerly a director and vice president of Fox DeLuxe Foods, Inc. He has held positions at Swift & Co. and Hofherr Meat Co. He also owned a wholesale meat business.

At the Fox company he designed processing operations and facilities, helped establish a frozen-food distribution system and developed new consumer packaging. He is a graduate of University of Wisconsin, and holds a master of business management degree from the University of Chicago.

For six years he has been a member of the IAPI merchandising committee, a member of the subcommittee on processing, working jointly with the U.S. Department of Agriculture on industry problems, and since 1955 has been a member of the IAPI international trade development committee. In 1956 he was elected to the IAPI board of directors and its executive committee, and was reelected in 1957.

Dr. Carpenter, who has been executive head of the institute since 1944, last fall asked the board of directors to relieve him of the responsibilities of the presidency. He will, however, continue to serve the institute in an official capacity with less active, more specialized duties.

Farmers Form Firm To Buy Feed, Supplies

MINNEAPOLIS—The formation of a buying organization by about a dozen of the largest farm operators in a southern Minnesota county is reported under way.

The operators have asked for bids from a southern Minnesota feed manufacturer to supply formula feeds, and it is believed that a similar procedure will be used for other farm supplies such as fertilizer.

The buying group will be a stock company and not a cooperative, it is understood. The new firm is expected to set up an office in a central location and employ someone to act as buyer.

Eastern States Promotes D. S. Keller

WEST SPRINGFIELD, MASS. — Donald S. Keller has been promoted to a new position in the research division of the Eastern States Farmers Exchange, West Springfield.

Formerly head of the feed distribution department of the exchange, his new responsibility will be the development and execution of a two-way educational program within the scope of feed research.

He will analyze and report the direction Eastern States research should take as seen in the field, interpret trends in agriculture as they relate to feeds and feeding and appraise the effectiveness of the Eastern States feeding programs as used by farmers.

He will also be responsible for those aspects of the research program involving the organization's relations with state and federal agencies.

Before joining Eastern States in 1931, Mr. Keller was assistant county agent in Mercer County, Pennsylvania, county agent in Sussex County, N.J., and fieldman for the American Jersey Cattle Club.

McKesson Opens New Office in Michigan

NEW YORK — The chemical department of McKesson & Robbins, Inc., New York, national distributor for chemical producers, announces the opening of a sales office and warehouse in the McKay Tower Building, Grand Rapids, Mich.

The announcement said this is part of the company's national program of expansion to provide greater service to manufacturing consumers of industrial chemicals and feed supplements in all industrial areas. C. M. Scherer is responsible for sales and distribution of chemicals in the area.

AFMA Market Research Division To Issue Periodic Economic Bulletins

CHICAGO — The American Feed Manufacturers Assn. has launched a new service for its members.

The project is a series of economic bulletins from the new AFMA market research division established recently. Scheduled to come out periodically, the bulletins will summarize developments in the agricultural situation which may be of interest to feed manufacturers.

First of the series was a bulletin dated March 13. It deals with livestock and poultry numbers and the outlook for each of the categories.

Taking a look at the picture for hog producers, the report said that if the pig crop report is correct, marketings should approach 1957 levels soon, with prices about the same as they were a year ago. Prices this summer should be little different from 1957, the report said. It also predicted that slaughter next fall and winter is to exceed 1957 with prices below the same period last year.

Prospects for cattle producers are that fed cattle marketings this spring may exceed 1957 and prices may drop to or below 1957 levels by early summer. Since producers will continue to hold back breeding stock, cow prices are likely to continue higher than in 1957.

Dairy producers can expect the support level for milk and butterfat to be lowered to 75% of parity April 1, unless the law is changed, the report said. The farm price of all milk during the marketing year beginning April 1 is likely to average just slightly above the $4 of 1954 and 1955, compared with $4.20 in 1957.

The bulletin, which was based on U.S. Department of Agriculture releases, also gave a report on farm income of the past year. It showed a total 1957 farm income of $20.2 billion, 1% over the previous year, and it pointed out that 31% of the total came from non-farm sources. Because of a drop in farm population, per capita income rose 10% to a new record.

Grain Men Request Congressional Halt To Nationalization

WASHINGTON—Farm Belt senators and congressmen were asked March 18 to "halt and reverse a long-term trend toward nationalization of the grain marketing system."

Robert C. Woodworth, vice president of Cargill, Inc., director of the Grain & Feed Dealers National Assn., spoke for secretaries of the association's state affiliates before congressional guests at the Shoreham hotel.

Mr. Woodworth said that too much power and discretion have been given government agencies, especially the Commodity Credit Corp., by farm and crop legislation now in effect. He asked that future legislation contain "the strongest possible strictures against nationalization," and that "every effort be used to prevent its further growth through administrative agencies."

"The grain trade network of private firms engaged in procuring, moving and merchandising grain from the farm to domestic consumption or export has a cost of activity lower than that of handling any other agricultural product," said Mr. Woodworth. "But CCC, in managing government stocks of surplus grain acquired under support programs, has felt impelled to extend its authority ever farther when faced with the natural uncertainties and vicissitudes of the grain economy. This has resulted in the injection of arbitrary and uneconomic policies in grain handling and has drastically altered the proven patterns of grain movement."

Example of Handling

As an example of CCC participation in grain handling, Mr. Woodworth said the CCC has now become the largest shipper of grain on the Great Lakes system and "the main competitor with the private trade for grain boat charters." The grain industry has proposed two major changes in CCC policy that would help return merchandising responsibility to free channels, he said. They are:

● A requirement that sale of government stocks of grain for domestic consumption be made competitively and for unrestricted use at the marketing place nearest CCC's point of acquisition. This would prevent bypassing of local grain handlers, expand the total market for grain and reduce government merchandising activities that compete with private firms.

● Institution of a subsidy-in-kind or subsidy-in-cash program for the export of all U.S. grains. Such a program, patterned after the present program for wheat export, would cause the larger part of export supplies to be drawn from the free market rather than from government stocks. It would result in the direct impact of export demands on the current market price for grain, a continuing method of keeping U.S. production competitive in world markets, and a smaller take-over of surplus grain by CCC. Such a program is essentially important in view of the poor storing quality of the 1957 corn crop, much of which suffered from unusual weather conditions during the last crop year, concluded Mr. Woodworth.

New Iodine Source Available for Feeds

PHILLIPSBURG, N. J.—The J. T. Baker Chemical Co., Phillipsburg, announces that it can now supply calcium iodate to feed manufacturers and mineral mixers throughout the U.S.

Calcium iodate, the company said, contains 3% more iodine than potassium iodate and it has been approved for feed use by the Association of American Feed Control Officials.

Broilers Weigh 1 Lb. At 3 Weeks on Less Than Pound of Feed

WASHINGTON — Nutrition researchers at the University of Maryland have reported producing test pens of broilers that weighed more at three weeks of age than all the feed they had eaten up to that time.

Dr. Gerald F. Combs, in a progress report before the Maryland Nutrition Conference in Washington, said that "one group consumed an average of .87 lb. of feed per bird and averaged 1 lb. in body weight at three weeks."

Pointing out that the feeding experiment still is in progress, Dr. Combs claimed no records for rate of growth and low feed consumption. He also emphasized that the birds are not expected to maintain this same rate of feed conversion throughout the complete feeding period.

Present good commercial broiler efficiency is about 2.25 lb. of feed per pound of live weight in producing birds averaging 3 lb. in weight at eight weeks of age. It was pointed out that feed efficiency is of prime importance to the broiler producer since feed cost is about 70% of the cost of broiler production.

Details Not Revealed

Dr. Combs did not go into details on the ingredients of the ration fed the test birds. He said final results of the study will be given as part of the program sponsored by the American Feed Manufacturers Assn.'s Nutrition Council at the annual convention in Chicago May 22. He revealed that the high potency of these diets largely is responsible for the exceptional feed conversion.

The nutrition research is a joint effort by University of Maryland workers and Dr. C. D. Caskey, director of research, Cooperative Mills, Inc., Baltimore, to develop highly efficient broiler rations. Dr. Combs said that crossbred male chicks (Vantress x Arbor Acres White Rock) were used in the trials. Although the rations used were unusual in their makeup, several of the rations studied contained ingredients regularly available in the feed trade.

(Oklahoma State University researchers, as part of a recent report on studies with turkeys on experimental rations, also noted that it took less than a pound of feed to produce a pound of turkey the first couple of weeks.)

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"Customers like Panogen," says Chatham Run Mill

The Panogen Process of liquid seed treatment is well accepted by the customers of Chatham Run Mill, Lock Haven, Pennsylvania, according to Lawrence F. Harris.

Shown here with his automatic Model JS-100 Panogen treater, Harris also points out that this push-button dust-free process is fast and convenient.

"By offering this scientific process, we feel that we are giving our customers the best seed treatment today," says Harris.

Joseph E. Allhoff

NEW VICE PRESIDENT—Joseph E. Allhoff has been named vice president of the Bates Grain Co., Kansas City, Max Bates, president of the firm, has announced. Mr. Allhoff joined the firm in Kansas City last October 1. Mr. Allhoff has been associated with the grain and feed industries for 26 years. Before joining Bates, he was manager of the formula feed department of the Fort Smith (Ark.) Cotton Oil Co.

APHF Reduces Annual Poultry Congress & Exposition to 3 Days

KANSAS CITY—Departure from a tradition of 42 years has been revealed with the announcement that the 1958 American Poultry Congress & Exposition will be shortened to three days. It has been a four-day affair since it was started.

Sponsored by the American Poultry & Hatchery Federation, it will be held July 22-24 in Cleveland.

Exhibit space for the exposition, the poultry industry's largest display of poultry and hatchery supplies, will go on sale in Cleveland March 24-25, direct from the Lakeside Exposition Hall of the Cleveland Public Auditorium. Any space not sold after March 25 will be available from APHF headquarters at 521 E. 63rd St., Kansas City 10, Mo.

According to C. J. McAleavy, president of the federation, the fourth day at recent APHF conventions has been marked by light crowds. "The annual banquet, traditionally held on the evening of the third day, has been a climax for many persons," he said. "This year we will let the banquet serve as the final convention feature. The banquet program will be expanded."

A crowd of 4,000-5,000 hatcherymen, breeders, feed mixers, feed dealers and growers is expected for the exposition this year. Last year in Kansas City attendance was 4,021.

Educational sessions will be scheduled to insure those attending maximum visiting time with exhibitors and others in the industry. Tentative plans are to have educational sessions the afternoons of July 22 and 24, and in the morning July 23.

Separate luncheons for men and women are slated for July 23.

GRAIN MAN DIES

MILFORD CENTER, OHIO—Neil F. Gest, president of the Ohio Grain Co., with headquarters in Milford Center, died recently at his home in Mechanicsburg, Ohio.

Layers, Rate of Lay Reduced

WASHINGTON — The number of layers on U.S. farms on March 1 was down 4% from the same date a year earlier, the U.S. Department of Agriculture reports. The total on March 1, 1958, was 307,073,000, compared with 319,936,000 a year earlier.

Rate of lay was also down, the report said. As a result of very unfavorable weather, particularly in the eastern part of the U.S., rate of lay was down 5%. The rate was 55.1 eggs per 100 layers, compared with 58.2 eggs on March 1, 1957.

All regions but the West showed a reduction in layer numbers and rate of lay from a year ago. In the North Atlantic states, layers decreased 5% and rate of lay 7%; in the east North Central, 4 and 7%, respectively; in the west North Central 6 and 3%, respectively; in the South Atlantic, 1 and 11%; in the South Central 7 and 9%, and in the West layers and rate of lay were both up 2%.

In a report on averages for the month of February, the USDA said that rate of egg production during the month was 15.3 eggs, compared with 15.4 in February, 1957, and the 1947-56 average of 14.3 eggs.

During February, farm flocks laid 4,753 million eggs, down 5% from February, 1957. All regions but the West showed decreases. Laying flocks during February averaged 310,555,000, 4% less than for the month the previous year.

Hens and Pullets of Laying Age on Farms, March 1

(000's omitted)

Year—	North Atlantic	E. North Central	W. North Central	South Atlantic	South Central	Western	United States
1947-56 (average)	54,349	68,045	98,829	33,172	57,378	35,501	347,274
1957	54,865	62,139	88,954	32,098	46,082	35,798	319,936
1958	52,336	59,729	84,050	31,739	42,647	36,572	307,073

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FALCON BRAND PULVERIZED WHITE OATS
STANDARD BRAND PULVERIZED WHITE OATS
DAIRY BRAND COARSE GROUND OATS
CRESCENT BRAND PULVERIZED OATS
CORN OATS PELLETS (Corn-Oats)
MIXERS' PULVERIZED OATS
MIXERS' COARSE GROUND WHITE OATS
MIXERS' PELLETED OATS
APEX BRAND CRIMPED WHITE OATS
OAT FEED
STEAM ROLLED WHOLE BARLEY
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Lawmakers Meet With Secretaries Of State Groups

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — A new era for the Grain & Feed Dealers National Assn. opened here this week when Al Oliver, executive vice president, brought together nearly two score state association secretaries to meet at an informal dinner with more than 100 members of Congress from the states represented by the secretaries.

The dinner was part of a workshop held here for state secretaries.

The meeting with congressmen is a new technique through which state secretaries can get an on-the-scene chance to meet informally with their representatives and senators and see what makes Congress tick and exchange views with congressmen.

On the basis of the warm fraternity of the gathering, it could only be assumed that the guest congressional delegation and the host secretaries were getting along handsomely in an interchange of views, setting forth problems back home and the problems congressmen face when they try to find a solution to problems that the big government creates for businessmen large and small.

A sampling of opinion among the secretaries indicated that this first session with lawmakers was a success and will probably pay dividends later.

Speaking on behalf of the GFDNA to the congressional delegation was Robert C. Woodworth, a director of the association and vice president of Cargill, Inc., Minneapolis. Mr. Woodworth enumerated the hazards and obstacles which the grain business faces in dealing with administrative officials of government agencies despite the fact that in most instances Congress has directed agencies to follow trade practices so far as possible.

(Also see story on page 6.)

The dinner followed a three-day workshop at which Clif G. Anderson, secretary of the South Dakota Farmers Elevator Assn., presided. He is chairman of the Secretaries Circle.

The president of the GFDNA, Madison Clement of the Clement Grain Co., Waco, Texas, was on hand for the meeting, too.

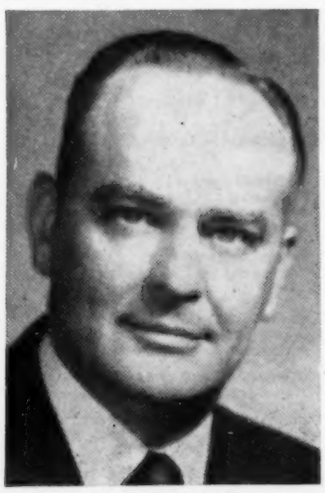
On Hand for Dinner

Among those present at the congressional dinner were Sen. Everett Dirksen (Ill.), Sen. Edward Thye (Minn.), Rep. Leroy Anderson (Mont.), Rep. Harold G. Cooley (S.C.), Rep. Jackson E. Betts (Ohio), Rep. Charles B. Hoeven (Iowa), Rep. W. M. McCullock (Ohio), Sen. Thomas Martin (Iowa), Rep. Les Arends (Ill.), Rep. Merwin Coad (Iowa), Rep. Sid Simpson (Ill.), Rep. Ben F. Jensen (Iowa), Rep. Walt Horan (Wash.), Sen. Charles Potter (Mich.), Rep. J. Floyd Breeding (Kansas), Sen. J. W. Fulbright (Ark.), Rep. Wint Smith (Kansas), Rep. Edward H. Rees (Kansas), Sen. Andrew F. Schoeppel (Kansas), Rep. William H. Avery (Kansas), Rep. Cliff Clevenger (Ohio), Sen. Karl E. Mundt (S.D.), Rep. E. J. Berry (S.D.), Rep. W. R. Poage (Texas), Rep. O. C. Fisher (Texas), Ray J. Ratliff (assistant to Rep. Christopher), Rep. E. C. Gathings (Ark.), Stanley R. Fike (assistant to Sen. Symington, Mo.), Rep. Thomas B. Curtis (Mo.), Rep. George H. Christopher (Mo.), Rep. Paul B. Dague (Pa.), Rep. Albert H. Quie (Minn.), Rep. H. Carl Anderson (Minn.), Dr. W. C. Hopper (Canadian embassy), Rep. Lester Johnson (Wis.), Rep. Charles B. Brownson (Ind.), Rep. Ralph Harvey (Ind.), Rep. E. Ross Adair (Ind.), Sen. Bourke B. Hickenlooper (Iowa), Rep. Fred Schwengel (Iowa), Rep. H. R. Gross (Iowa), Rep. Paul Cunningham (Iowa), Rep. Carl M. Lecompte (Iowa), Rep. Henry O. Talle (Iowa), Herbert Kerstein (secretary for Sen. Alexander Wiley, Wis.).

Attending for the GFDNA were: Madison Clement, Dick Cunningham, S. Dean Evans, Sr., Alvin E. Oliver, E. G. Cherbonnier, Ray Bowden.

Secretaries present were: Richard I. Ammon, Clif C. Anderson, Dr. Lawrence E. Carpenter, Orris E. Case, Sheldon Chandler, Jr., Howard W. Elm, O. W. Faison, Ben M. Ferguson, W. D. Flemming, Ed S. Herron, Paul C. Hughes, Murray H. McPhail, Lloyd A. Nelson, G. E. O'Brien, Nevels Pearson, Eldon H. Roesler, Fred K. Sale, Merrill D. Sather, Robert Skinner, Pete Stallcop, L. S. Smith.

Guests were: Dr. Richard Phillips, Iowa; E. H. Sather, Wisconsin.



Wendell W. Hall

BROKERAGE FIRM — Wendell W. Hall, formerly sales manager of Maine Marine Products, Inc., Portland, has joined the brokerage firm of K. S. Crittendon of Georgia, Inc., Atlanta. Mr. Hall has taken an option to buy a full membership of stock in the firm.

Ralph E. Weed of Cyanamid Dies

NEW YORK—Ralph E. Weed, who pioneered sales to the feed industry for American Cyanamid Co., died recently from a heart attack at Nyack (N.Y.) Hospital. He was 62.

Mr. Weed joined Cyanamid's Lederle Laboratories division in 1946 as a sales representative. While there he became the first salesman to introduce the antibiotic Aureomycin chlortetracycline and other medicaments to the feed industry.

In 1955 he was promoted to the position of eastern manager of animal feed sales. Last October he was assigned to the position of eastern district manager of industry sales. Recently his principal responsibilities were special assignments in contacting major feed manufacturers.

A veteran of 34 years in the feed business, Mr. Weed started his career with the Ralston Purina Co. as a feed salesman in 1924. He remained there until 1942, when he obtained a commission in the U.S. Navy as a line officer.

Mr. Weed attended the University of Vermont, where he majored in agriculture. He is survived by his wife, Bertha, and children, Dr. Lawrence L. Weed, Bangor, Maine; Donald E. Weed, Palo Alto, Cal.; Mrs. Jane Weed Levitt, Stony Point, N.Y.; Nancy Weed, Hartford, Conn., and eight grandchildren.

South Carolina Turkey Federation Will Meet

SUMTER, S. C.—The annual spring meeting of the South Carolina Turkey Federation will be held in Sumter April 2, Charles Risher, secretary, has announced.

He indicated the principal speaker will be a national turkey authority.

Chickasha Cotton Oil Adds Bulk Station, Plans Office Move

CHICKASHA, OKLA.—The Chickasha Cotton Oil Co. this week announced plans to move its executive headquarters to Ft. Worth, Texas, on or about April 15. At the same time, the firm announced plans for a third bulk feeding station for its subsidiary, Save Way Feed Mills.

Claude Britain, president, and Paul E. Ray, vice president and assistant to the president, announced the moving plans. The company has had its headquarters in Chickasha for more than half a century. Its new location will be the Houston Fire & Casualty Insurance Co. Building, Ft. Worth.

Mr. Ray announced the purchase of the Farm & Ranch Supply Co., Pilot Point, Texas. He said management of the farm and ranch store will continue under the direction of Wilbur Joiner.

He said a sub-station at Pilot Point will be equipped for bulk receiving, shipment and storage of 120 tons of Save Way feeds. Delivery service will be made to turkey growers and laying hen operators.

Save Way is now feeding approximately 100,000 market turkeys in the vicinity of Pilot Point, the announcement said. The company also has 25,000 laying hens on an egg program, and it was indicated by Mr. Joiner that 40,000 additional hens will be placed on feed within the next 60 days.

The announcement said it is contemplated that the operation of the Pilot Plant sub-station will coincide with those of another company bulk station previously announced by Hico, Texas, under the name of Woodward Save Way Produce Co. Save Way acquired the Hico property three months ago and recently completed a large bulk station at that point.

The egg program with 60,000 layers on feed and 100,000 turkeys represents the beginning stages of Save Way's integration plan, the announcement said. The company has a third bulk station at Broken Arrow, Okla., near Tulsa.

G.L.F. Expanding Its Buffalo Mill

BUFFALO — The cooperative GLF Exchange, Inc., has started a $200,000 modernization - expansion of its Buffalo feed mill, Richard W. Smith, manager of the GLF mills division, said.

The project brings to $950,000 the amount spent in the past two years to improve and expand the mill. It is part of a five-year modernization program necessitated by "increased demand" for feed products, Mr. Smith said.

The current project will double the mill's capacity to produce feed pellets and crumbles and will speed up the rate of production of mash feed, he added.

Maximum production of pellets and crumbles will be brought to about 100,000 tons a year. The mill's total feed production is about 500,000 tons a year.

Mr. Smith said the project involves re-locafion of pelletizing equipment, inistallation of new coolers and other equipment to replace obsolete units.

The new rail-and-truck loading facility at the mill—completed recently at a cost of $750,000—is in full operation, Mr. Smith said, and "has paid off already" in helping the mill to handle a step-up in shipments as a result of the recent dust explosion which destroyed the GLF feed mill in Albany.

UTAH FIRM SOLD

SALT LAKE CITY—The Richfield (Utah) Feed & Grain Co. has been purchased by the Utah Poultry & Farmers Cooperative Assn. for an undisclosed sum.

RESIGNS — R. K. Yancey has announced his resignation as general sales manager of The J. B. Ehrsam & Sons Manufacturing Co., Enterprise, Kansas. He said his future plans will be announced at a later date. Mr. Yancey is widely known in grain and feed circles. He has been employed by Ehrsam since 1945, when he started in the drafting department. He later became chief draftsman before transferring to the sales department. He served as general manager of Ehrsam Pacific, Inc., the firm's west coast subsidiary company, before being promoted to general sales manager.

Merck Appoints Two Regional Managers

RAHWAY, N.J. — The chemical division of Merck & Co., Inc., has appointed two regional sales managers for agricultural products in key areas, according to J. E. McCabe, marketing director for agricultural products.

Fred O. Church was named sales manager for the southern region, with headquarters in Atlanta. Appointed sales manager for the mid-Atlantic region, with headquarters in Philadelphia, was Frank W. Warren.

Mr. Church was formerly agricultural chemicals merchandising manager. In that position, he played an important role in the company's expansion into the agricultural chemicals field, the announcement said.

Mr. Warren was formerly assistant to the general sales manager of the chemical division. Most of his activities in that position concerned agricultural chemicals and products for the feed, flour milling, and hatchery fields.

In their new posts, which they assumed recently, the two men will be responsible for all sales activities in their respective regions relating to animal feed and animal health products.

Dr. L. M. Winters Dies in Baghdad

BAGHDAD, IRAQ—Dr. L. M. Winters, 66, authority on animal breeding, died following a heart attack here March 16. He had been in Baghdad as an adviser with the International Cooperation Administration.

Well known for his development of the Minnesota No. 1, No. 2 and No. 3 breeds of hogs, he had retired from his position as professor of animal husbandry at the University of Minnesota in 1956. He had been on the Minnesota faculty since 1928 following eight years as professor of animal husbandry at the University of Saskatchewan, Canada.

Besides his work on hogs, Dr. Winters also was instrumental in the development of Minnesota No. 101 and 102 sheep breeds. He had also helped develop miniature pigs for research.

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Potential for Growth, Change In Northwest Feeding Noted

By ROGER S. BERGLUND
Feedstuffs Managing Editor

Farmers and feed men — in the North and Middle West as well as in the South itself—are well aware of the increasing poultry and livestock production in southern areas and the competitive threat it holds for grain belt producers. It may be that they should be keeping an eye focused in the other direction, too—toward the Northwest.

Certain economic and technological developments appear to hold the potential for a significant expansion in the output of animal agriculture in the northern states extending all across the western part of the nation. They are developments which, at least on a longer term basis if not immediately, can have some signficant effects on the feed business.

Shift in grain production patterns, new nutrition findings by western researchers, population changes, advances in feed processing and feeding methods, possible changes in location of meat processing facilities—all of these things are among the factors which have implications for the Northwest and for other areas, too. They are factors in a number of trends and developments worthy of note for feed men in all areas.

Talks and informal discussions at some recent western industry meetings brought out some of the current and potential developments:

LIVESTOCK FEEDING: A big surplus of feed grain production as wheat acreage has been cut back, new feed research findings and the possibility of ready markets in the rapidly expanding population of the West are some of the things which are stimulating greater interest in cattle feeding and fattening operations along with the traditional production of feeder cattle in Montana, for example. It looks as though there may be a continuing increase in feeding across the Northwest.

HOG PRODUCTION: Increased barley production and research showing the improved feeding results with pelleted barley-base rations for swine have brought a big increase in use of commercially prepared barley rations for swine in North Dakota and surrounding areas. More of the same is possible in Montana, too, and there is encouragement of hog production in Washington, where producers are told how they can grow hogs at low cost in comparison with pork originating on Corn Belt farms. It's all part of the move to use locally available feed and produce swine for the pork-deficit areas of the West. And it's a move which may see expanded opportunities for the feed industry in the area.

Trainloads of cattle and hogs move from or across Montana actually into West Coast states, while tons of barley are shipped eastward. Why, many persons are saying, shouldn't the animals and barley get together right in Montana? Some similar ideas are expressed elsewhere, too.

(Another story detailing some of these developments will appear in a subsequent issue of Feedstuffs.)

ENZYME SUPPLEMENTATION: Washington State College and other research has shown the possibilities in improving the nutritional value of barley through enzyme supplementation of feeds. Dr. James McGinnis of Washington State sees some major implications of this research as more information is uncovered. The potential is there, he feels, for improving other grains, as well as barley, and perhaps oilseed meals and other ingredients, too, through enzyme supplementation when more is learned about enzymes to use and materials which show responses. Swine and laying hens, as well as growing birds, may be involved. Research in this field is continuing, and some new commercial enzyme products at relatively low cost are expected before long.

Meanwhile, the potential for increased use of barley in the Pacific Northwest is great. The freight on midwestern ingredients moving into the Pacific Northwest runs into the millions of dollars annually. Use of enzymes or other methods may be a step in the direction of sharp cuts in feed bills in the area—and a more restricted market for midwestern grain.

NEW ANTIBIOTICS: Researchers have been reporting lessening growth and feed efficiency responses to commonly used antibiotics, perhaps because of improved environment or development of resistance to these antibiotics. Washington State scientists recently reported research in which two newer antibiotics, oleandomycin and erythromycin, boosted poult growth while certain "old" antibio-

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S. C. Wheeler

FACTORY REPRESENTATIVE—S. C. Wheeler has been appointed factory representative for the Arid-Aire Grain Dryer, manufacturered by Daycom, Inc., a subsidiary of The Day Co. Mr. Wheeler will be headquartered at the firm's Minneapolis office and will cover Minnesota, North Dakota, South Dakota and eastern Iowa. He was formerly in sales work for International Harvester, Chicago.

tics showed little or no response. Antibiotic suppliers were said to be continuing work also on certain new antibiotics for possible feed use for poultry and swine.

PELLETED RATIONS: Already prevalent in some of the feedlots on the West Coast, complete pelleted rations (including both roughage and concentrate) for lambs and cattle are attracting more interest in the Northwest. Mechanical handling and labor saving in feeding, as well as improved nutritional value of pelleted roughage, are major factors. One feed man told of a case in which it once took 32 men to handle a big lamb feeding operation adjacent to a mill; later it took 16 men when roughage and concentrate were combined in meal form; further changes and pelleting of the ration cut it down to a truck driver taking the pellets out from the mill to the feedlots. In another case, several cattle feeders were considering joining together to build and operate a mill to produce pelleted rations for their feedlots. A local mill showed them how it could fit into their program and now produces the complete pellets.

POULTRY: Some of the plains and mountain states don't figure they'll become big in the poultry business, but some, such as Montana, figure that continuing research and improved management and feeding and better facilities will bring steadier production of quality eggs and make the states self-sufficient in eggs on a year-around basis, rather than importing eggs. It's another case where some other areas may be cut out of some markets.

BULK FEED: As the industry is well aware on the West Coast, with its big feeding operations, a large share of the feed is delivered in bulk. Western areas are expected to continue ahead of the Midwest, for example, in increased use of bulk feed.

A. E. Staley Grants Funds to Foundation

DECATUR, ILL.—A $5,000 grant-in-aid to the Lipotropic Foundation has been announced by the A. E. Staley Manufacturing Co., Decatur.

Dr. Thomas L. Gresham, vice president and director of research for the company, said the contribution is in recognition of the foundation's important sponsorship of metabolic and nutritional research.

A non-profit organization, the foundation is headquartered in New York.

Continental Grain Announces Changes

NEW YORK — Michel Fribourg, president of Continental Grain Co., has announced the following personnel changes:

Harold H. Vogel, vice president in charge of St. Louis operations and a director of the company, will be transferred to the executive staff of the company headquarters in New York about Sept. 1.

Donald F. Bidgood, vice president, will be transferred about April 15 from New York to St. Louis where he will be in charge of operations and will be assisted by Kurt Horn who has been promoted to vice president.

James F. Mayer, assistant vice president in Minneapolis, will be transferred to the New York office to replace Mr. Bidgood.

Leonard Eisemann, assistant vice president in Minneapolis, will be in charge of Continental's activities there.

NEW OWNER NAMED

COMFREY, MINN. — Lawrence Garsch is the new owner and operator of the former Sellner Feed Mill in Comfrey.

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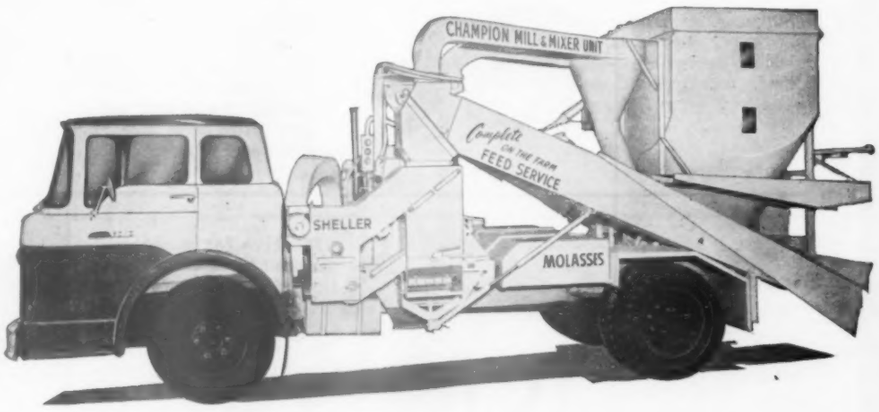

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Fit the ration to the farm. There is a PRO-STREP level for every ration—PROFITOPPER

	SWINE		CHICKENS *(Layer and Breeder Rations)*	
Penicillin		Penicillin is absorbed and carried through the blood stream to every part of the body to effectively check pathogenic, gram-positive organisms. Penicillin also stimulates feed consumption, enhances weight gains and feed conversion. Grower is able to market more uniform pigs.		Penicillin is absorbed into the bloodstream of the growing or mature bird. It is carried to every part of the body and is effective against harmful, gram-positive organisms. Penicillin is particularly helpful at times of stress in maintaining or increasing hatchability of fertile eggs.
Streptomycin		Effective for prolonged periods of time in the intestinal tract, streptomycin acts against the gram-negative bacteria so often responsible for bacterial enteritis ("necro"). *Streptomycin will not interfere with the action of beneficial intestinal flora.*		Streptomycin is slowly absorbed from the intestinal tract. It provides "crop-to-vent" protection against pathogenic, gram-negative organisms. Streptomycin will not interfere with the action of beneficial intestinal flora.
Directions for Use	**25 Gm/ton** *(18.75 Gm. Streptomycin—6.25 Gm. Penicillin).* Feed continuously to stimulate growth, improve feed efficiency, increase feed intake and promote better uniformity of gains. **50 Gm/ton** *(37.5 Gm. Streptomycin—12.5 Gm. Penicillin).* Feed continuously until pigs are 50-75 pounds to: prevent bacterial swine enteritis; stimulate growth; improve feed efficiency; stimulate feed intake; and help promote better uniformity of gains. If outbreaks of enteritis occur, feeds containing 100 Gm. of PRO-STREP should be used. **100 Gm/ton** *(75 Gm. Streptomycin—25 Gm. Penicillin).* To treat bacterial swine enteritis feed rations fortified with PRO-STREP for 4-5 days or until symptoms disappear. PRO-STREP at the 100 Gm. level also may be used until pigs are 50-75 pounds to: stimulate growth, improve feed efficiency, increase feed intake and assure better uniformity of gains.		**25 Gm/ton** *(18.75 Gm. Streptomycin—6.25 Gm. Penicillin)* Feed continuously as an aid in maintaining or increasing egg production and to stimulate growth and improved feed efficiency. In the presence of disease, rations containing 100 Gm. are recommended. **100 Gm/ton** *(75 Gm. Streptomycin—25 Gm. Penicillin).* The following claims may be listed on your tags when PRO-STREP is fed at high levels to chickens: **a.** Reduce mortality and hasten recovery from C.R.D. **b.** Treat nonspecific infectious enteritis. **c.** Maintain feed intake and weight gains during C.R.D. and nonspecific infectious enteritis. **d.** Aid in maintaining or improving hatchability (of fertile eggs). **e.** Aid in maintaining or improving egg production. **f.** Prevent early chick mortality due to organisms sensitive to penicillin and streptomycin. **g.** Improve feed efficiency as related to egg production or weight gains. *Suggested feeding schedules:* **1.** Feed the first 10 days—then 3-5 days during, or immediately after, such stress factors as Newcastle disease or bronchitis vaccination, debeaking or housing pullets. **2.** Feed for the first 10 days and then for 3 days out of every week until birds are marketed. **3.** Feed continuously in case of disease outbreaks.	

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CHICKENS *(Starter and Grower Rations)*

Penicillin is absorbed into the chick's bloodstream and carried to every tissue and organ in the body. Penicillin is effective against the gram-positive organisms. Many of the bacteria susceptible to penicillin are incriminated in secondary and subclinical infections in young chicks.
Penicillin also has a profound effect on stimulating growth, enhancing effective feed conversions and stimulating feed consumption.

Streptomycin is slowly absorbed from the intestinal tract. It provides "crop-to-vent" protection against harmful, gram-negative organisms. *Streptomycin will not interfere* with the action of beneficial intestinal *flora.*

25 Gm/ton *(18.75 Gm. Streptomycin—6.25 Gm. Penicillin).* Feed continuously to stimulate growth of chicks and to improve feed efficiency.

In presence of disease, recommend rations containing 100 Gm. of PRO-STREP.

100 Gm/ton *(75 Gm. Streptomycin—25 Gm. Penicillin).* The following claims may be listed on your tags when PRO-STREP is fed at high levels to chickens:

a. Reduce mortality and hasten recovery from C.R.D. **b.** Treat nonspecific infectious enteritis. **c.** Maintain feed intake and weight gains during C.R.D. and nonspecific infectious enteritis. **d.** Aid in maintaining or improving hatchability (of fertile eggs). **e.** Aid in maintaining or improving egg production. **f.** Prevent early chick mortality due to organisms sensitive to penicillin and streptomycin. **g.** Improve feed efficiency as related to egg production or weight gains. *Suggested feeding schedules:*

1. Feed the first 10 days—then 3-5 days during, or immediately after, such stress factors as Newcastle disease or bronchitis vaccination, debeaking or housing pullets. **2.** Feed for the first 10 days and then for 3 days out of every week until birds are marketed. **3.** Feed continuously in case of disease outbreaks.

TURKEYS

Penicillin, absorbed into the bloodstream, affords maximum protection in all the tissues and organs of the body against the effects of gram-positive pathogens. Penicillin also is valuable in promoting economical weight gains in poults.

Streptomycin provides "crop-to-vent" protection against gram-negative organisms in the bird's intestinal tract. Slowly absorbed from the intestines, *Streptomycin does not interfere with the action of beneficial intestinal flora.*

25 Gm/ton *(18.75 Gm. Streptomycin—6.25 Gm. Penicillin).* For best results turkeys should be placed on low levels from hatching until they are 16-20 weeks of age. Low-level antibiotic rations will stimulate growth and improve feed efficiency. In the presence of disease, or on farms where the disease level is high, use rations containing 100 Gm. of PRO-STREP.

100 Gm/ton *(75 Gm. Streptomycin—25 Gm. Penicillin).* At this level rations fortified with PRO-STREP will: treat bluecomb and infectious sinusitis; help maintain weight gains during outbreaks of these two diseases; prevent early mortality of poults due to organisms sensitive to either streptomycin or penicillin; help reduce losses following periods of stress such as vaccination, debeaking, chilling, moving, overheating; improve weight gains and feed efficiency in poults even in the presence of disease.

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Pelleted Feeds Seen Taking Over in Ruminant Feeding

There is increasing interest in pelleted roughages and complete pelleted rations for ruminants. And a leading animal nutritionist predicts that in the years immediately ahead, baled hay, chopped hay and hand-fed fattening rations may be replaced by pelleted hay and/or complete pelleted rations.

The production of complete pelleted rations, including both roughage and concentrate, for beef cattle and sheep is believed by some persons to represent the biggest tonnage opportunity that the feed industry has.

The nutritionist commenting recently on developments in pelleted feeds for ruminants was Dr. W. M. Beeson of Purdue University, Lafayette, Ind.

As part of a talk at the Utah Nutrition Conference in Logan, Utah, Dr. Beeson said that many research studies now in progress or recently completed indicate that pelleting roughages and complete fattening rations for cattle and sheep have real possibilities.

"Eventually (in 10 years)," he said, "baled hay, chopped hay and hand-fed fattening rations may be replaced by pelleted hay and/or complete pelleted rations."

Dr. Beeson listed advantages of pelleted feeds for cattle and sheep, pointing out that the following are some of the more obvious advantages:

1. Increases daily gain—partly because of increased food intake.

2. Increases feed intake because feed has less bulk, is more condensed and occupies less space in the rumen per unit of dry matter.

3. Allows self-feeding on a full-feed from the start without wasting time on raising gradually on fattening rations.

4. Permits the simultaneous feeding of a balanced diet with all the necessary nutrients present at once in the proper relationship. No chance to sort and choose.

5. Improves feed efficiency.

6. Cuts down on digestive disorders and cattle going off feed.

7. Equalizes intake of essential nutrients (protein, etc.) between animals being group-fed.

8. Reduces waste and feed storage space—up to 80% saving in space with roughage.

9. Saves time and labor—adapted to push-buton operation (automation) and self-feeding.

10. Takes the "guess work" out of starting cattle on feed, thus changing cattle feeding to a science rather than an art. Thus, it replaces the old adage that "the eye of the master fattens his cattle" with the modern version "the eye of the scientist fattens his cattle."

Illinois Results Cited

Dr. Beeson, in discussing these developments, cited some of the recent University of Illinois research which has shown rather dramatically that pelleted (3/16" pellet) timothy-alfalfa or alfalfa hay will produce more rapid and efficient gains in steers than when the same hay is fed baled (long) or chopped (4" to 6" lengths).

The Illinois results, he said, have indicated rather clearly that pelleting either alfalfa or a mixture of ⅓ alfalfa and ⅔ timothy will significantly increase daily gain, amount of hay consumed and hay efficiency with less cost per pound of gain. Pelleting lespedeza slightly increased daily gain and feed intake but also increased the cost of feed per pound of gain.

Pelleted hay was figured to cost $10 more per ton than the same hay in baled form.

In one 119-day experiment with a timothy-alfalfa mixture, steers on baled hay had an average daily gain of .63 lb.; a daily feed of 11 lb.; a feed efficiency of 17.3 lb. per pound of gain, and cost of 17.3¢ per pound of gain. The corresponding figures on a pelleted hay ration were 1.73; 15.7; 9; and 13.6.

In a comparison of baled and pelleted alfalfa, animals on baled alfalfa showed an average daily gain of .18 lb.; a daily feed of 11.3 lb.; a feed efficiency of 51.6 lb. per pound of gain; a cost of 61.9¢ per pound of gain. The corresponding figures for pelleted alfalfa in this test, showing a very dramatic difference, were 1.77; 16.5; 7.9; and 13.9.

BUILDS NEW ADDITION

WILBER, NEB.—Farmers Elevator Co. has completed a $140,000 addition including pelleting equipment in the mill. The project includes eight new concrete grain storage tubes bringing total capacity to 320,000 bu. In addition to pelleting equipment, the mill has a roller mill, granulator, hammermill, sacking and sewing and mixing equipment. Joseph Menza is manager.

Oklahoma Starts Meat Tenderness Research With $30,000 Grant

STILLWATER, OKLA.—A $30,120 contract for meats research has been awarded to Oklahoma State University by the Agricultural Research Service of the U.S. Department of Agriculture.

Dr. R. L. Henrickson, professor in charge of the meats research program in the OSU animal husbandry department, and James L. Anderson, a graduate student, have begun the project. Duration of the contract is 3½ years.

Aim of the research, said OSU, is to learn the basic reasons for tenderness, or lack of it, in beef, and the factors in loss of tenderness before the meat is consumed.

The information likely can have some implications for pork and lamb meat, too, according to Dr. Henrickson. It may suggest changes in production practices on farms and ranches, methods of slaughter and processing and meats storage methods.

Animal husbandry men have long believed that "marbling", or intermingling of fat with the fibers of lean, is the main factor in tenderness of beef. Now they are not sure, Dr. Henrickson states. There is considerable evidence that structure of the protein within the meat cells is more important than marbling in determining tenderness.

More Grain Capacity

FALLS CITY, NEB.—The Englehart Corp., Falls City, has announced plans to increase its grain storage capacity by 100,000 bu., giving the firm a total capacity of 390,000 bu.

The new all-steel Columbian building will be 160x50 ft. and will be connected to the present adjoining elevator with conveyors, loading and unloading facilities.

With the new building the company's capacity will be 340,000 bu. at Falls City and 50,000 bu. at Preston, Neb.

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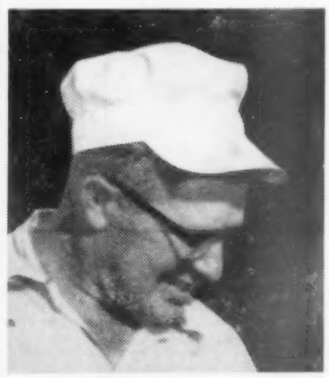

Clayton Ruby

NEW FEED ELIMINATES WINTER ILLS: Clayton Ruby fed out 200 Herefords on a new type of beef supplements in his Sheldon, Iowa, feedlot and discovered superior results from eliminating the usual winter livestock ills. The new feed supplied 75 mg. of Terramycin per head per day. Ruby reports: "I didn't have a single bit of trouble with these cattle. They looked good all winter and did real well on Terramycin for me. I am putting the rest of my cattle on it now." This new type of feed with Terramycin proved in tests it could increase gains and feed efficiency an average of 8%—with or without stilbestrol in the feed—and reduce the incidence of bloat an average of 76%. Feeders report the new Terramycin-fortified feeds reduce foot rot and liver abscess problems; increase bloom, carcass grade and dressing percentage.

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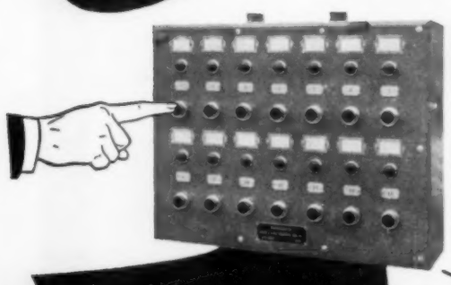

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Ohio Reports on Several Feeding Trials with Swine

WOOSTER, OHIO—Results of recent experiments by the Ohio Agricultural Experiment Station, Wooster, in the feeding of various supplements to swine have been reported by the station.

The experiments included feeding trials in the use of various antibiotics, an anthelmintic and sources of unknown growth factors to pigs in dry lot and on pasture.

In a test on the use of various additives, the following results were noted:

Dry Lot: The feeding of 50 grams of tetra-alkylammonium stearate (Dynafac) did not improve rate or efficiency of gain over controls. Aureomycin at 10 gm. per ton increased gains by 9% from start (nine weeks) to 120 lb., but 4% slower from 120 lb. to market weight. Fifteen pounds less feed was required in the first, and 4 lb. less per 100 lb. of gain in the second growth phase.

A combination of Aureomycin, penicillin and bacitracin fed at a combined level of 10 gm. per ton resulted in an 8% increase in rate of gain from the start to 120 lb., but less than 1% for the entire feeding period. There was little influence on efficiency of feed conversion.

Use of 20 gm. Aureomycin per ton increased rate of gain by 18% during the early growth period, but less than 1% during the second. Efficiency of feed conversion was improved 10 and 3 lb. per 100 lb. gain, respectively, during the two growth periods.

A combination of Aureomycin, penicillin and bacitracin at 20 gm. per ton improved rate of gain by 21% during the first period and less than 1% from then on. At the same time, however, there was a saving of 25 and 18 lb. of feed per 100 lb. gain, respectively. This was the best performance noted.

Pigs fed a combination of sulfaquinoxaline and streptomycin gained 10% faster than controls in the first period and 2.5% faster in the second. The savings in feed were equal to that where Aureomycin, penicillin and bacitracin were fed at the higher level.

Hygromix fed at the recommended level for worming throughout the feeding period increased early gains by 7%, but cut gains by 5% in the second growth phase. Efficiency of feed conversion was improved by 26 lb. per 100 lb. gain during the first period, but no effect was seen in the second.

Pasture: Dynafac at 50 gm. did not influence growth rate, but 13 lb. less feed was required per 100 lb. gain from 120 lb. to market weight.

Hygromix added to the basal ration had a 6% increase in rate of gain during the first, but did not improve rate of gain in the second part of the growth period.

Sulfaquinoxaline and streptomycin at 10 gm. increased growth rate 15% and resulted in a saving of 24 lb. feed per 100 lb. gain in the second period.

Aureomycin at 10 gm. brought a 9% increase in rate of gain in both periods but had little effect on feed requirement.

As in the dry lot, the best over-all performance resulted from the feeding of a combination of 10 gm. Aureomycin, 7.5 gm. bacitracin and 2.5 gm. penicillin per ton. Growth rate was increased by 8 and 15%, and the pigs saved 31 lb. feed per 100 lb. gain in the second period.

In another part of this trial, the recommended level of Hygromix was fed throughout both periods. Before pigs were placed on the test, individual fecal samples were taken and examined for parasite eggs. Examinations made through the feeding period showed that pigs receiving Hygromix had effective control of ascaris, nodular and whipworm. Pigs on dry lot generally had the better control.

In another test, to study the influence of feeding 3% dried fish solubles, 1% of the higher alcohols derived from whale oil, 5% dried molasses and 3% dried whey in a ration for pigs on dry lot, there was no response from the addition of the growth factor sources.

Another trial reported was a study of the use of arsanilic acid in protein supplements fed free-choice with ground corn. The study investigated arsanilic acid with both all-plant protein supplement and one containing both plant and animal materials.

The researchers said that a level of .05% arsanilic acid, when added as the only antibacterial agent in an all-plant or plant and animal protein supplement, did not significantly improve performance when the supplements were fed free choice with ground shelled corn. A slight advantage was noted for the supplement containing both plant and animal materials over the all plant protein supplement.

Corn Refining Industry Seeks Technical Talent

NEW YORK—Inviting college-trained men and women with technical training to consider careers in the corn refining industry, Corn Industries Research Foundation, Inc., New York, has published an illustrated booklet which the foundation and its 11 member companies will distribute via vocational-guidance channels and other outlets.

The booklet, entitled "Careers in Corn Refining," contains sections on the essentiality, soundness and growth of this century-old industry which manufactures products of corn for hundreds of food and non-food uses, and looks at future potentials of the industry as seen through continuing research.

In a section headed "The Geography of Corn Refining," the member companies of the industry are shown to have plants in Illinois, Indiana, Missouri, Ohio, Michigan and Texas.

"In its research, engineering, production and product application," the booklet says, "the corn refining industry offers to college-trained men and women with imagination and scientific curiosity a career capable of utilizing these capacities to the full."

The booklet is available through the Corn Industries Research Foundation's headquarters at 1001 Connecticut Ave., N.W., Washington, or the Foundation's editorial offices at 3 E. 45th St., New York.

Deane F. Wicks T. H. Bacon

SALES MANAGERS NAMED — Deane F. Wicks, formerly eastern district sales manager for Raymond Bag Corp., has been advanced to company sales manager. Mr. Wicks will be succeeded as eastern district sales manager by T. H. Bacon. Both men have been associated with Raymond and its parent firm, Albemarle Paper Manufacturing Co., several years.

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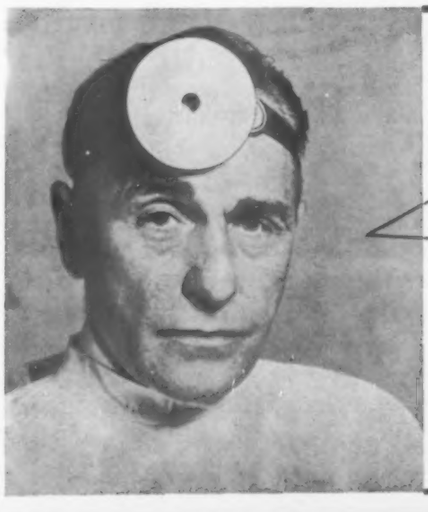

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Limits of Integration Predicted by Economist At Delaware Meeting

NEWARK, DEL.—An agricultural economist says he does not expect complete farm-to-consumer integration of all agricultural production to occur or be attempted in the foreseeable future.

Making the prediction was Prof. J. C. Bottum, Purdue University, speaking at a meeting of about 180 bankers and farmers from Delaware, Maryland, Pennsylvania and Virginia. The meeting was held at Newark.

Prof. Bottum said his predictions were based on the assumption that there would be no war or prolonged depression.

"I consider the rapidity and completeness of broiler industry integration an unusual example not likely to be duplicated in other farm enterprises," the economist related. He went on to say that integration does not make a small, inefficient farm business profitable. "Management remains a scarce resource," he said, "and whoever can supply it most effectively and economically will retain or gain control."

The speaker added that potentially efficient producers handicapped by lack of resources will be helped by integration, while less efficient producers will be forced sooner to find other employment.

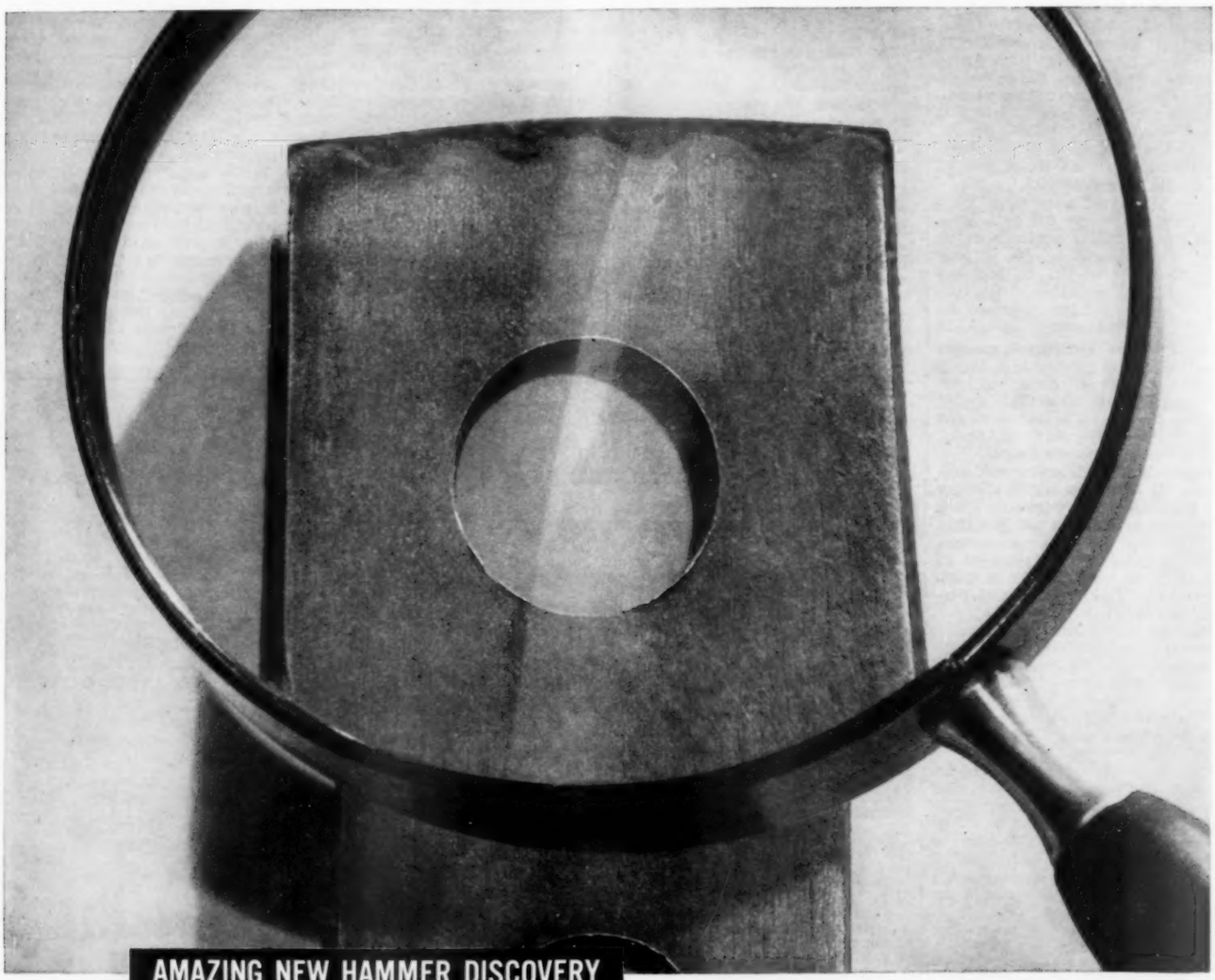
B. W. McDonald, regional credit and collection manager for International Harvester Co., said he expects a continuation of the present decline in the number of farm units.

"Increased agricultural specialization, greater commercialization and more extensive mechanization will make it necessary for the farmer to operate a larger farm unit, if he is to realize maximum efficiency and ultimate profit necessary to sustain operations," Mr. McDonald pointed out.

Another speaker was N. A. Jamba, vice president and manager of the agricultural department of the National Bank and Trust Co., Norwich, Conn. He predicted that "as years go by the commercial farm will take on more and more of the characteristics of small industrial plants. Family farm operations will require greater capital investment, a greater need for cash operating funds, and better managerial capacity."

Capital also was mentioned by Dr. Wylie D. Goodsell, agricultural economist with the U.S. Department of Agriculture. He said the phenomenal growth and development of American agriculture has come about by greater use of capital as a direct outlay for enlarging the farm business and in replacing labor and other resources.

Presiding at the meeting was Charles M. Hollis, Jr., president of the Delaware Bankers Assn.



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Am I REALLY A Manager?

By Dr. W. S. Farris and Dr. Charles E. French
Purdue University

EDITOR'S NOTE: Dr. Farris and Dr. French, both members of the agricultural economics department at Purdue University, Lafayette, Ind., ask a provocative question of feed mill and elevator managers in this article. But at the same time they provide a test which will help the managers answer the question for themselves. For those managers who wonder where the line is to be drawn between management and work that should be delegated, and for those who seek a few basic rules for sound management, this article is of value. It is the result of a comprehensive study of the activities of four Indiana elevator managers during the busy season of the year.

"Am I really a manager?" Recent research at Purdue University suggests that many feed and grain elevator managers may well ask this question. Most managers are valuable men to their organization—when they are managing! The rub comes because so many other things must be done that the manager often has no time to manage.

Four Indiana elevator managers were each studied for two days during the busy season. A detailed record of all their activities was made. Their work was classified as follows:

OFFICE WORK	CUSTOMER SERVICE	INSTRUCTING EMPLOYEES AND HAULERS
Phone in	Sell	Office
Phone out	Write ticket	Mill
Test	Inform	Haulers
Weigh	Discuss	Other
Record weight	Visit	
Read market report	Check Account	
Read mail	Other	
Sign checks		
Write letters		
Buy or sell		
Clerical work		
Check tickets		
Read articles		
Check prices		
Other		

We thought we knew about what elevator managers do. In fact, they had told us that this was about what they did. So we set up our forms to cover their work rather thoroughly. However, even with this detailed list of jobs, we found these managers spending 20-30% of their time in our "other work" category. In other words, they were spending one-fourth of their time on such things as:

Checking wholesale supplies.
Outside trips.
Checking grain doors in railroad cars.
Running errands to town.
Loading feed.
Filling the soft drink machine.
Burning trash.
Checking bin temperatures.
Helping with repairs.
Taking fence inventory.

A manager's time is valuable. He can't afford to spend it on many of these activities. Check this schedule and see how valuable your time really is:

If your annual salary is	Every hour is worth	Every minute is worth	An hour saved each day would amount to this over the year
$ 5,000	$ 2.56	$ .04	$ 625
7,500	3.84	.06	937
8,500	4.35	.07	1,061
10,000	5.12	.09	1,249
12,000	6.15	.10	1,501
14,000	7.17	.12	1,749
16,000	8.20	.14	2,001
20,000	10.25	.17	2,501
25,000	12.81	.21	3,126
50,000	25.61	.43	6,249

An elevator manager obviously can't say exactly what he will do. He can't say, "I'll do this job and not that one." His work isn't quite that clear-cut. Yet, from our studies, we feel that there are certain guideposts that will help a manager decide whether he is really managing or not. Check your answers to the question in the test on this page and see whether you are managing.

TEST YOURSELF

Mark Your Answers Yes	No		
☐	☐	1.	I have done nearly every job in this business.
☐	☐	2.	I know each employee's home town.
☐	☐	3.	I had my feet on the desk at least an hour yesterday, doing nothing but thinking.
☐	☐	4.	I have had a complete doctor's checkup in the last 24 months.
☐	☐	5.	I can be away from my business the busy season and not impair the operation.
☐	☐	6.	I can remember what I did a week ago today.
☐	☐	7.	I do about the same things each day.
☐	☐	8.	I must occasionally do things which I know are unfair to certain workers.
☐	☐	9.	I have been on the university campus in the last year.
☐	☐	10.	I have made very few management errors in the last year.
☐	☐	11.	I have increased my sideline business.
☐	☐	12.	I have fewer employees per unit of business volume than I had five years ago.
☐	☐	13.	I have a telephone bill which is 25% higher than it was in 1952.
☐	☐	14.	I delegate some important decisions to my employees.
☐	☐	15.	I frequently discuss customer problems with the customer when he is in the elevator.

Score yourself against our answers below. You can be your own judge as to how well you score.

ANSWERS

1. Yes. A good manager should be balanced. Most managers come up through the ranks. Today the emphasis is on young managers. To get young managers, we have sacrificed this balance. If the manager has worked mostly in the feed grinding department, that department is probably very efficient, but the grain handling department may be going down hill. If the manager came up through sideline sales, we may see that this is well run, but the office is in bad shape. A manager should strive for balance. If he has had time to work in all jobs, fine. If not, he most certainly should study each part of the business and be sure that he is not emphasizing the one in which he has had a special interest in the past to the neglect of others.

2. Yes. A manager should be human. Today's most acute problems are those in human relations. A manager too involved in his machines, feed formulas or his customers to learn something about each of his employees is in for trouble.

3. Yes. A manager should be thinking. A manager should spend most of his time if possible on mental work and a minimum on the physical. The engineers tell us that a man is worth about a 40-watt light bulb so far as energy is concerned. He is probably worth about a 1/10 h.p. electric motor as a source of power. Surely you are worth more than that when you are thinking!

4. Yes. A manager must be healthy. Today's problems require a certain amount of vigor. This does not necessarily mean that the man must always be in the "pink" of health. He must, however, know his physical capabilities and work within them. One of our Indiana managers reported during this study that he was now doing by far the best job of managing that he had ever done. The reason? Three years ago he had had a heart attack. The doctor told him to quit doing physical work and just manage. His business is booming!

5. Yes. A manager should be replaceable. This sounds harsh and almost contradictory. We have said that a manager is important. He is, but if he has not delegated his responsibilities so that someone else can step in, he is leading himself into trouble.

6. Yes. If you cannot remember what you did a week ago today, it was probably not too important. A manager must be important. A manager becomes important by working on important things. Important things tend to be permanent. Be careful of merely working on the fads and frills.

7. No. A manager must be original. He should work on the principle of exception. He should put his time on that which is an exception from the expected. If sales are lower than they have been running, he should find out why. If sales are higher, he should be just as interested in why. If costs are higher than they should have been, he should find out why. If costs are lower than they have been, he should find out why. Let the hired help take care of the routine things; work on the different.

8. No. A manager must be honest. Sometimes he may wonder whether he has done the right thing or not. But, in all of his decisions he must try to do what he thinks is absolutely fair to everyone. Anyone trusted with money must be honest, but a man trusted with the relations of people must be doubly honest.

9. Yes. A manager today must be well trained. Just to keep up is like trying to push on something that is going faster than you. Training comes through education and experience. It is difficult to get both, and both are expensive. However, there is much education that can be picked up on a visit to the University campus, by reading articles such as this, and by visiting other firms. This continuous training helps a manager to keep up with today's treadmill of technology.

10. No. A manager must be humble. An honest manager will usually admit that he has made several management errors in the last year. It was a wise man who recently said that the difference between an outstanding manager and an average one was about 5%. The man that is right 5% more of the time than his competitors will excel. Management is like that. You must make decisions—some right and some wrong. We wish that all decisions could be right, but they can't. A manager must recognize that his job is important, but he must be humble about it. Sometimes a manager is a manager simply because he has been shielded by such things as company policy, luck of inheritance, business organization, or respect for age, experience or past deeds. Realize that the other fellow's job is important and that he is probably doing a good job. Be humble.

11. Yes. An increased number of sidelines usually enables you to make better use of your buildings, equipment and labor. Actually, you can probably operate the sidelines without any additional labor. This is true

especially when you select sidelines that have their largest labor demand during the slack season of your elevator and feed business.

12. Yes. A good manager probably has fewer employees per unit of business volume than he had five years ago. Often this seems surprising because total business has probably grown considerably. The reason should be simple. A good manager has substituted electric power for man power, added a couple of sidelines that use labor in slack seasons and devoted a little time each week to working out a tighter schedule of activities.

13. Yes. Telephones are generally cheaper than trips. A telephone usually makes for more accurate and faster decisions. Transactions are easier to reduce to routine after essential points have been checked by phone.

14. Yes. Again this sharing of responsibility is a necessity if you are to be away from your business for a few days without upsetting the operations. A good assistant manager can make more and more short run decisions with increasing confidence. Sharing a few important decisions makes him proud and enthusiastic besides giving him valuable experience. This will relieve your day-to-day operation strain and give you time to attend a few state and regional meetings and improve your buyer and seller contacts.

15. Yes. A manager must spend more and more time with customers when they are in the business these days. Their problems are more complicated and they expect your help. You should endeavor not to engage in prolonged visits, but spend a reasonable amount of time. This will help you to anticipate their needs and to make more satisfactory recommendations for the use of your products. Moreover, they appreciate this face-to-face personal interest in their problems.

Lilly Adds Veterinarian To Agricultural Staff

INDIANAPOLIS—Dr. Richard P. Gregory, Jr., has joined Eli Lilly & Co. as station veterinarian in the agricultural research division.

According to Dr. J. F. Downing, director of the company's agricultural research, Dr. Gregory was added to the staff to care for the rapidly increasing poultry and livestock population being used in experiments at the Lilly Agricultural Research Center near Greenfield, Ind. Dr. Gregory also will help conduct veterinary field trials at the center.

Dr. Gregory received his B.S. degree in biology and chemistry from Western Kentucky State College, Bowling Green, in 1940. In 1949 he was awarded a D.V.M. degree at Ohio State University.

Prior to joining Eli Lilly, Dr. Gregory had private practices at Taylorsville, Ky., and Harrisburg, Ill. He also conducted research and taught in the veterinary science department of the University of Tennessee.

Cyanamid Plans Tests Using Twin Calves

NEW YORK—The farm and home division of American Cyanamid Co., New York, is attempting to establish a herd of identical twin dairy cows for experimental purposes.

Frank Cooper, superintendent of farm experiments for the division, said he would prefer to purchase the twins as calves, in order to establish a known history on the mature herd.

"We will greatly appreciate all the cooperation we can get from all available sources in the northeastern section of the country leading to the acquisition of these identical twin heifers," Mr. Cooper said.

Anyone with identical twin heifers who would like to contact Mr. Cooper may do so by writing to the American Cyanamid Co., Farm & Home Division, 30 Rockefeller Plaza, New York 20, N.Y.

GRAIN DEALERS HONORED — These four Oklahoma grain dealers were honored by Oklahoma State University for outstanding service to the grain industry and agriculture of the state. They are, left to right, Bernard Blubaugh, manager, Clyde Cooperative Assn., Medford; Leo Greer, manager, Nash (Okla.) Equity Exchange; Benno Feuer, manager, Continental Grain Co., Enid, and Owen Wimberly, manager, Okeene (Okla.) Milling Co. They were presented with awards during the third annual Grain Elevator Business Conference on the OSU campus at Stillwater.

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Public Relations for Small Business Owners

By Raymond W. Miller, President, and Robert W. Miller, Secretary
Public Relations Research Associates, Inc., Washington, D.C.

Summary

Sooner or later, most small business owners are faced with public relations problems—a subject seemingly simple, but actually a diverse and complex intangible even in the hands of experts. What, then, is "public relations"?

Public relations as an activity of business is modern in name and as such has had many divergent concepts grafted onto it by accident or intent. Virtually anyone can enter the field. Hence, there has been a tendency for it to be credited with many programs which perhaps might better have been termed advertising, sales, or even plain management.

Twenty years ago there were relatively few public relations departments or advisers in the true sense. Today, the work of public relations is a recognized business function in industry and trade. There is still, however, a good deal of misunderstanding as to what public relations accomplishes. Because of wide interest in the subject and differences in opinion as to how public relations can help small business, the accompanying article has been prepared by the Small Business Administration, Washington.

Recently in the Logan Airport terminal at Boston, two businessmen who had just arrived from the West were discussing food.

"How about getting something to eat?" said the first.

"Swell," replied the second. "Do you know any good places? I've never been here before."

"I haven't either," said the first, "but I think we ought to try Simpson's (name disguised). Everybody says the food is wonderful, and the service equally good."

"Really," said the second man, "that sounds fine."

"Many of our people make it a point to go there whenever they're in town," continued the first man. "They tell me they've never heard anything but praise for it."

Here is a small business which enjoys good public relations.

WHAT IS PUBLIC RELATIONS: One executive said: "Good public relations means doing the right thing, at the right time, in the right way, and at the right place."

Webster defines it as: "The activities of a corporation, union, government, or other organization in building and maintaining sound and productive relations with special publics such as customers, employees, or stockholders, and with the public at large, so as to adapt itself to its environment and interpret itself to society."

Public relations involves also a state of mind, one in which the businessman by his mental attitudes creates the social and often economic climate in which he operates. Every business has public relations whether it wants to or not. A firm cannot live like a hermit. It prospers and grows because of its relations with others. In all dealings with people it has public relations—good or bad largely by its own choice.

IMPACT ON SMALL CONCERNS: Being small does not reduce the significance of public relations problems, any more than being big assures their successful solution. All individuals necessarily have personal contacts with others and the number of these contacts is determined by the people they meet in the course of a normal day.

A movie star has a much bigger public than does a physician; likewise, a city traffic policeman has a larger public than does a dairy farmer. The same situation exists in business. At a busy passenger terminal, a small newsstand operator with two employees and a gross of $20,000 per year might, numerically, have many more public relations opportunities than a wholesaler having 30 employees and a $4-million-a-year volume.

Small marketers will be well advised to maintain cordial relations with all of the publics with which they deal both individually and collectively. Some of these groups are:

1. Current and prospective customers
2. Suppliers
3. Creditors
4. Employees
5. Employees' families
6. Press, radio, television
7. Competitors
8. Local educational institutions
9. Local civic organizations
10. Government
11. Stockholders (if any)
12. General public

Behind the growing need for public-relations consciousness is the fact that our total population is increasing at a tremendous rate. Although a business may handle only a limited line for a small number of customers, as the community grows, that shop will have new problems. They will develop because of the firm's proximity to others—with whom it may have no business, but many contacts.

Furthermore, hiring and holding competent people today is more complicated than it was a few years ago. Unless the executives of small businesses are alert to this situation, they will find (as many are now finding), that they get the leftovers. Often the best qualified people are drawn to the larger concerns. All of these public relations problems need study. They can be solved. In fact they must be solved if the business is to prosper.

SOME QUESTIONS AND ANSWERS ON PUBLIC RELATIONS: Owners and managers of small firms around the country often have similar questions on public relations and how it works. Here, for example, are seven of the most common queries and comments on them.

• **Can we buy public relations and measure precisely its results?** No. Public relations is an intangible

Frank King Orville Abshire

SALES ENGINEERING — Hot Spot Detector, Inc., Des Moines, has appointed Frank King as sales engineer for the Illinois, Indiana and Kentucky area. His appointment follows the recent transfer of Orville Abshire to the company's Pacific Northwest territory. The announcement was made by D. C. Stixrood, president of the firm. He said Mr. Abshire's transfer is part of a plan to bring all the large grain centers in the U.S. under the direct responsibility of qualified engineers. A graduate electronics engineer, Mr. Abshire has served the company as a sales engineer for the past two years. Mr. King, a native of Indiana and a graduate of Evansville (Ind.) College, was formerly associated with International Harvester Co., Chicago, as a test engineer.

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E. M. Bond

George W. Williams

SALES PROMOTIONS—The Chase Bag Co. has appointed George W. Williams as acting manager of its branch in Dallas, Texas, filling the vacancy left by the death of J. A. White, Jr., former manager. E. M. Bond has been named sales manager at Dallas. Mr. Williams, a veteran of 37 years in the bag business, was, until his appointment, a special representative for Chase in the area served by the Dallas branch. Mr. Bond, a native of Tennessee, became associated with Chase in 1950 as a sales representative at New Orleans. Prior to his most recent promotion he spent six years in Chase's Chicago sales office.

thing. Essentially, it represents attitudes and state of mind, not ledger figures and physical inventories. It is having a "bank account" of dependable friends and allies. Bear in mind, also, that true friendship and goodwill are not for sale. Their acquisition is accomplished on a plane of the highest social, economic, and moral values or not at all.

• **What is the difference between public relations and advertising? Are they not the same thing?** No. Advertising, like everything else an organization does, is actually a part of the public relations program. Advertising is paid time or space with the intention of presenting the merits of certain items. It is, of course, a necessary part of almost every business. In addition, honest and attractive advertising is an effective aid to good company public relations. But it is not the whole endeavor.

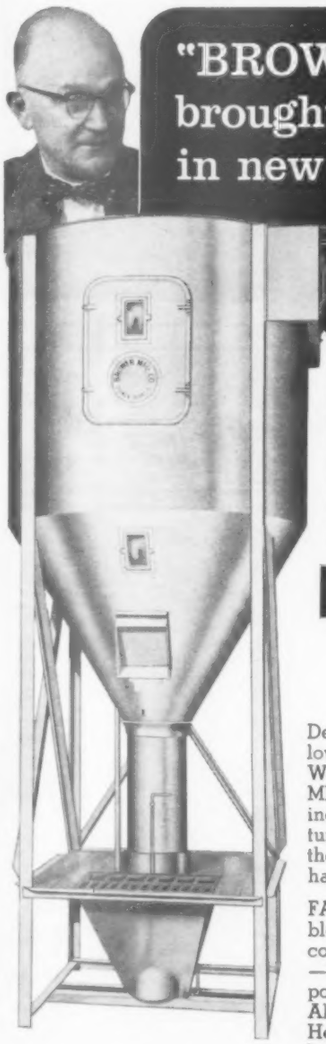
• **Can we compartmentalize public relations?** Again, no. It represents the combined actions of every executive and employee of the company. While one person within an organization may act as "director of public relations," he must be primarily concerned with advising others as to the effect of their conduct, past or future, on the company's various publics. Genuine public relations is the accumulated performance of the entire organization from the president down.

• **How can we determine if our public relations is good or bad?** By asking questions and evaluating the answers you get. This is not an easy job, nor is it one that can ever be considered finished. Broadly speaking, business deals with a parade of people —not a crowd. The groups that are touched by your organization today will have new members tomorrow. However, by constantly analyzing the actions, statements, and attitudes of others toward your organization, and doing the same in regard to your own employees, a continuing human relations audit of opinions can be made —a sort of second balance sheet of acceptance of your business.

• **Can public relations be improved inexpensively by the small concern?** Yes. The understanding, or lack of it, of public relations may make the difference between success and failure in your business. Many times, doing nothing at all about public relations is more costly than a definite program. Good public relations need cost but little. It can be started from such beginnings as front office courtesy, cooperation in the trade, community interest, employee and customer loyalty, and consistent integrity in all dealings.

• **Who is responsible for public relations?** Everyone — president, salesman, truck driver, cleaning woman, stenographer, watchman — every member of the team. The big things in many a company public relations program are really lots of little things —like a cheerful greeting, a prompt reply to a letter, or a good word for a neighbor.

• **How soon can the public relations job be finished?** Never. Public relations is a never ending project. It goes on wherever the firm comes into contact with people. Each person



"BROWER MIXER brought 25% increase in new customers"

Says M. A. Anderson, Anderson Grain Co., Nacogdoches, Texas

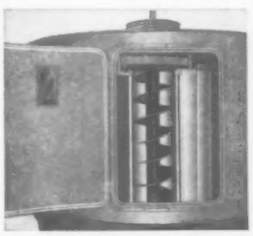
Increased profits, too!

"Mixing our own brand of feeds with a Brower Mixer has meant a 10% increase in profits, and our custom mixing service has brought a 25% increase in new customers. We also save on feed costs by mixing feed for our own 50,000 broilers. We have had a Brower Mixer for 15 years, and it is tops in trouble-free service and economy of operation."

BROWER *Whirlwind* MIXER

Dependability, fast mixing action, and low cost operation make Brower the WORLD'S LARGEST SELLING MIXER! Brower action WHIRLS the ingredients instead of just stirring or tumbling them . . . produces the most thorough mix you can get. Every sack has the same even mixture.

FAST and ECONOMICAL—a perfect blend in about 10 minutes at a power cost of only 3¢ to 5¢ a ton. Five sizes —700, 1200, 2000, 3000 and 4000 pounds-per-batch mixing capacities. Above-floor and below-floor models. Heavy welded steel construction—built for years of trouble-free service.



Interior readily accessible through large hinged service door and hinged conveyor sleeve.

Notice the mixing paddle at top which WHIRLS the ingredients for the most thorough mix.

Glass observation window at eye level provides easy inspection of mixed feed at any time.

WRITE for FREE CATALOG

BROWER MFG. CO.
402 N. 3rd, Quincy, Ill.

World's Largest Selling Mixer

energy rations, use

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FEED *INGREDIENTS* OF ALL KINDS

LA BUDDE
MILWAUKEE, WIS.
MALT SPROUTS
BREWERS GRAINS
DISTILLERS GRAINS
BEET PULP
AND 44 OTHER FEEDS

gets an impression of some kind. The art of public relations is the intelligent attempt to make that impression a wholesome and productive one for every new person coming in contact with the company.

TWO CASES IN POINT: Public relations in small concerns is often made up of simple inexpensive actions such as those illustrated by the following cases (names disguised).

• **The "Martinson" Company.** Martinson was a small enterprise in the process of relocating. In the area to which it was going, little was known of the firm's methods, product line, or organization. Moreover, the community had had almost no experience with business concerns as such, and for that reason viewed the proposed newcomer with open hostility.

The public relations "program" adopted by Martinson's was as elementary as it was effective. The three top executives packed up and went to the town for a visit. They didn't do any business; they didn't make any surveys. They just came to get acquainted. They spent several days listening and talking with anyone who cared to meet with them—public officials, the press, the chamber of commerce, ministers, priests, rabbis, school teachers, potential suppliers of local goods and services, and others.

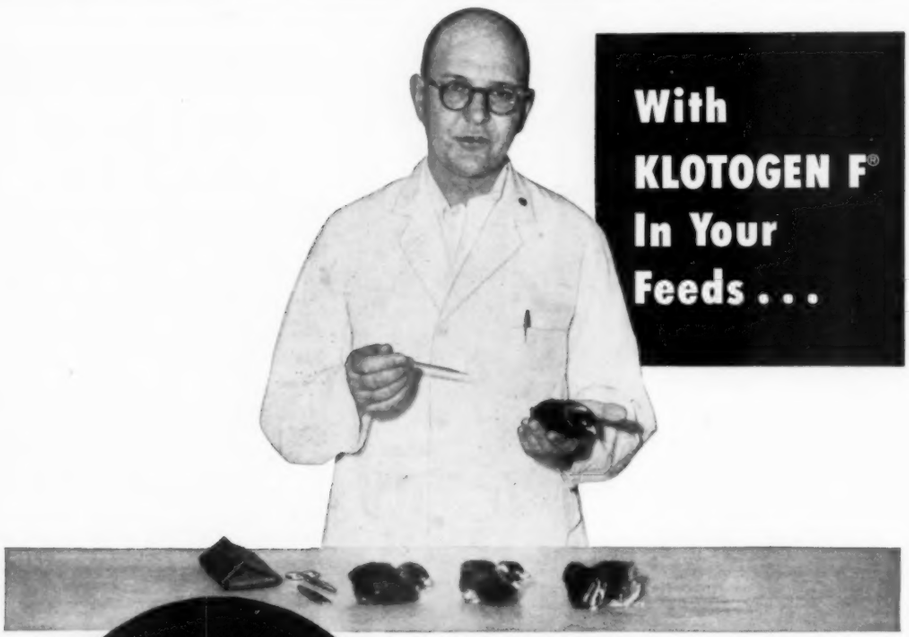
One of the company trucks was carefully driven about the streets "just to get acquainted," too. Hostility melted. When the company finally moved in it was "ours" to the community instead of "theirs" as it had been.

• **"Morris Baker."** A poor man, Baker had risked the savings of years in entering a highly competitive retail field. He was of a race and creed unlike that of the general community he wanted to serve. His competitors referred to him disparagingly. When he started, he had only one employee, his wife. They had a small stock of groceries, but an abundance of smiles and honest interest in their neighbors. Business grew very slowly. Their first employee was John Gilpin, an old man who had been "discarded" by another company as being too old. The Bakers hired him and found a job that he could perform to both his and their satisfaction. He became their unheralded and unlabelled public relations ambassador. Through his day-to-day efforts, resentment gradually disappeared. Trade gradually picked up. Customer loyalty developed. Neither Gilpin nor the Bakers had ever heard the name public relations. But they were experts at it.

These examples highlight ways in which practical, inexpensive public relations can pay off in terms of success, not only in money, but in satisfactions.

GETTING ADDITIONAL HELP AND GUIDANCE: Small business owners and managers have available exactly the same sources of help and guidance as do the larger companies. Here are five specific suggestions you may want to consider.

1. Join one of the trade associations in your particular line and get in touch with its public relations department. Most associations will have at least one man on this work.
2. Attend Chambers of Commerce and other community meetings whenever you can, and observe the public relations work of others through free and open discussion.
3. Get in touch with the local college or university. Often it will have a professor who is well informed on public relations questions. If you wish, he may also be able to help you employ a young man or woman for your business, part of whose responsibility



Poultry Diseases Can Be Less Serious!

Vitamin K (the anti-hemorrhagic vitamin) plays a very important part in poultry health, feed conversion . . . and consequently in making more satisfied customers!

Tests prove that vitamin K in broiler feeds greatly improves birds' resistance to disease—*providing the vitamin K is supplied in adequate amounts and in a form that can be easily absorbed.* If not, the resulting vitamin K deficiency helps to increase the severity of infectious diseases. Adequate supplies are also important during times of stress or disease when hemorrhagic disease can occur, as in coccidiosis, dubbing, and debeaking . . . or when enteritis complicates absorption problems.

Continuing changes in poultry ration formulas and feeding practices have combined to limit the amount of usable vitamin K in the high-energy broiler rations of today. To further complicate the problem, adequate levels of fat-soluble forms are often difficult to maintain in feeds.

To eliminate this problem of uncertainty, many feed manufacturers now depend on KLOTOGEN F, the *water-soluble* synthetic form of vitamin K produced by Abbott Laboratories.

Recent scientific tests indicate the value of KLOTOGEN F in reducing death losses during outbreaks of cecal coccidiosis . . . the poultry disease which causes severe destruction to the intestinal and cecal linings. When adequate amounts of KLOTOGEN F were fed, death losses were 0 to 7%, compared to 13 to 60% of chicks on a vitamin K deficient diet.

KLOTOGEN F does a superior job of protecting flocks against vitamin K deficiencies. KLOTOGEN F is reported to be 3 to 6 times as effective as ordinary fat-soluble menadione in poultry feeds. And, when high-level sulfa medications are used, this superiority is up to 10 times greater.

To avoid any question of adequate and completely usable vitamin K in your feeds, make sure they contain KLOTOGEN F! For more complete information about this superior form of vitamin K, write or call the Chemical Sales Division, Abbott Laboratories, North Chicago, Illinois.

®*KLOTOGEN F—Stabilized Menadione Sodium Bisulfite Abbott; U. S. Patent No. 2367302*

Abbott LABORATORIES
Manufacturers of Arsanilic Acid and Gallimycin® Poultry Products
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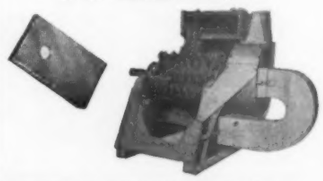
W-W PERMANENT MAGNETIC SEPARATOR

• STRONGEST
• LOW COST
• GUARANTEED FOREVER

30% more pull than with any comparable magnets. Equipped with Alnico V units . . . protective casing. Available hinged or plain . . . 48-hour shipment.

W-W HAMMERMILLS



HAVE A HEART OF STEEL

W-W hammers, the original hard-surfaced hammers, have Tungsten Carbide cutting edges which last for entire life of the hammers — many times longer than any other hammer.

W-W GRINDER CORP.
Dept. 311 Wichita 4, Kansas

"You bet we're proud of our farm"

"We like our way of life, too, because it's been a good way and a useful one.

"At least we've tried to make it so.

"When you work with something and watch it grow because of the care you're taking with it, it's almost like you're creating something . . . a wonderful sort of a feeling to have.

"Sure, we've had to work hard. Our family has lived on this land for 46 years now, and it hasn't always been easy. There've been drouth years, floods, insects—sometimes almost enough to make us wonder if it's all worthwhile.

"But it *is* worth it!

"We've stuck to farming, and the land has been good to us.

"Naturally, we are concerned about what our youngsters will do when they grow up. I guess all parents feel that way.

"But I know one thing—we're going to let our children make up their own minds. Whatever they do, we know the training they've gotten here will fit them for any number of jobs. (Can't help but hope, though, that they'll decide to stay with what they know best—farming.) Just look at the opportunity ahead.

"We've read all about how this country's population is booming so much, and how much more it's supposed to grow in just a few years.

"But when a country grows—and a world for that matter—people need more of everything. And the things we produce here on the farm will be the key to a whole lot of that growth.

"Sure, it's going to mean that farmers will have to produce more. And we'll have to be *better* farmers to meet the challenge. But take your 4H Clubs, FFA, and the advanced programs being offered by our ag colleges. Why, our youngsters today are learning things that were almost beyond the imagination when I was a boy.

"Yes, from here the future looks good . . . good enough to make us mighty thankful we're a *farm* family."

* * * * *

We at Cargill agree. There *is* going to be an increasing demand for farm products in the years to come. And the farmer is going to become an increasingly vital person to our economy.

That's a big responsibility this family is facing right now—the responsibility of helping provide all the crops our country and the world are going to require in future years. Just think, a predicted 220 million persons in the United States by 1975—and 3½ billion in the world by 1999!

But we firmly believe tomorrow's farmers are equal to the job, and then some. Cargill has worked with farmers and their families for more than 93 years now. (Our business is Creative Processing—finding ways to change raw farm crops into finished products people will need and buy.) That's why from our position as Number 2 man on the farmer-processor team, we can vouch for the kind of stock from which farm folks are made.

These are rugged, honest, loyal, hard-working and warm-hearted people. They're a big part of our own future at Cargill.

Cargill
CREATIVE PROCESSING

93 Years of Creative Processing of Farm Products

CARGILL

could be to help you work out public relations problems.

4. Write to the Public Relations Society of America, Inc., at 2 West 46th Street, New York, N.Y., or to the American Public Relations Association at 1010 Vermont Avenue, N.W., Washington 5, D.C. Ask to be put in touch with a member of the organization who specializes in public relations for small businesses. There are several. This kind of professional assistance usually involves a fee.

5. The School of Business Administration, University of Texas, Austin, Texas, publishes a Public Relations Bibliography edited by Dr. William Nielander. This has been found to be of real value by many individuals and institutions engaged in exploring the public relations field. In it you will find listed the majority of the worthwhile publications on this subject.

For owners and managers of small marketing concerns who wish to have at hand a few books on the subject of public relations, the following selected references are suggested as representative of the many good volumes on the subject:

Public Relations Handbook, edited by Philip Lesly, Prentice-Hall, Inc., Englewood Cliffs, Route 9W, N.J. 1956. $9.

Public Relations in the Local Community, by Louis B. Lundborg. Harper and Brothers, 49 East 33rd Street, New York 16, N.Y. 1950. $3.50.

Public Relations, by W. A. Nielander and R. W. Miller. The Ronald Press Company, 15 East 26th Street, New York 10, N.Y. 1951. $5.

Practical Public Relations, by R. F. Harlow and M. M. Black. Harper and Brothers, 40 East 33rd Street, New York 16, N.Y. 1952. $5.

Publicity for Prestige and Profit, by Howard Stephenson and W. F. Pratzner. McGraw-Hill Book Company, 330 West 42nd Street, New York 36, N.Y. 1953. $4.50.

Public Relations in Management, by J. H. Wright and B. H. Christian. McGraw-Hill Book Company, 330 West 42nd Street, New York 36, N.Y. 1949. $4.50.

CHECKING YOUR OWN PUBLIC RELATIONS: Following are 20 questions designed to help you size up how well you're doing on your own public relations. Give yourself five points for each "yes" answer. A score of 80 and above is very good. From 45 to 75 is about average. Anything below 45 indicates numerous opportunities for real improvement.

1. Do you have a policy that good public relations is a matter of top-management concern?

2. Do you constantly guard against having your business actions in conflict with public desires?

3. Do you have specific secondary goals such as informing the public about coming changes in your business policy, organization, or operation?

4. Do you recognize each of the groups which make up an important segment of your firm's public?

5. Do you take regular steps to see that each group receives the appreciation it deserves?

6. Do you maintain sympathetic and wholesome employe relations, even with temporary help?

7. Do you have an established system for informing all employes on what your firm stands for and how it functions?

8. Do you have an active program of community relations and cooperation?

9. Do you make periodic surveys of public attitudes towards your firm?

10. Do you analyze and use the results of these surveys?

11. Do you maintain the distinction in company thinking between public relations, and publicity as a tool of public relations?

12. Do you avoid high pressure tactics in your public relations activities?

13. Do you try to eliminate any unattractive aspects of company activities rather than simply "whitewash" them?

14. Do you make continuous and consistent efforts to improve your public relations skill instead of merely putting on sporadic drives?

15. Do you personalize, as far as possible, your company's relations with each segment of its public?

16. Do you make a conscious effort to understand how Government affects your business and to improve your relations with Government organizations?

17. Do you insist that all your company's actions be completely honest and sincere?

18. Do you have in your organization some one person to whom public relations responsibility and authority have been assigned?

19. Do you remind your employees constantly that selling, serving, and good public relations are inseparable?

20. Do you make it a point to consider what is best for the public at large as well as your own private interest when major business decisions are being made?

NOW - A NEW DRY MOLASSES FOR FARM FEEDING!

be the first to feature...

Natico DRY Feeding Cane MOLASSES Product

MORE THAN 48% SUGAR!

AVAILABLE FOR IMMEDIATE SHIPMENT!

WRITE TODAY FOR PROFIT MAKING FACTS ABOUT NATICO!

Remember, something wonderful happens when you add NATICO!

Pass the word along to your customers—*add* NATICO to feed; *subtract* dollars from feeding costs! NATICO is the new, dry all molasses product—*no carriers, no fillers*—with a guaranteed 48% sugar content that adds attractive color and fragrance to feed. Even makes dry, home-grown grains and roughages tasty. Packed in easy-to-handle 50-lb. bags, NATICO is economical to buy, profitable to sell.

FOR BEEF AND DAIRY CATTLE, SWINE, POULTRY

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World's Largest Importer of Cane Molasses
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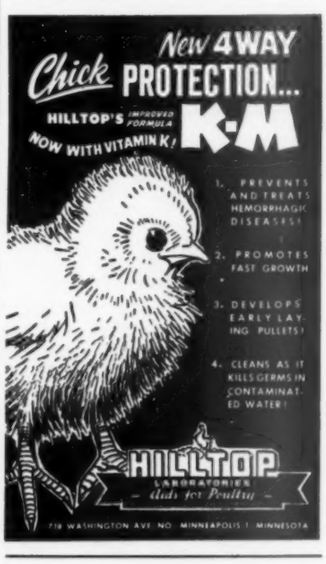

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For Timely, Useful Industry Information
FEEDSTUFFS

HARDER-WORKING
FEED PHOSPHORUS
another dynamic DYNAFOS
plus factor
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100%
Availability*
the big reason
dynamic DYNA·FOS®
stretches your phosphorus dollar
*The standard for determining the dynamic value of feed phosphates is beta-tricalcium phosphate which is arbitrarily assigned a value of 100.

HERE'S HOW

dynamic DYNA·FOS®

supplies the

Extra Nutritional Punch

that makes

YOUR FEEDS PAY OFF ON THE FARM

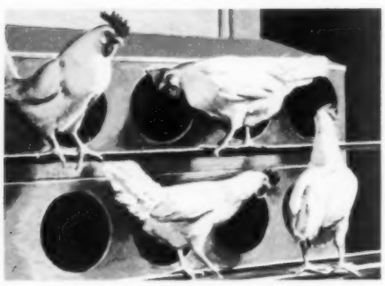
100% availability helps today's hogs reach market weight nearly 50% faster

Dynamic DYNAFOS provides the extra nutritional punch that helps today's hogs gain nearly 50% faster than in 1935. At Purdue, nutritionists boosted gains as much at ½ lb. per head daily just by replacing soft phosphate with dicalcium phosphate.

100% availability helps dairy cows produce 44% more milk every day

An average cow produces almost 2,000 lbs. more milk yearly than in 1935 . . . must convert 44% more phosphorus into milk. Because Dynamic DYNAFOS far out-performs unprocessed, raw phosphates, it is a preferred phosphorus source for modern dairy feeds.

100% availability helps hens lay 75 more eggs per year

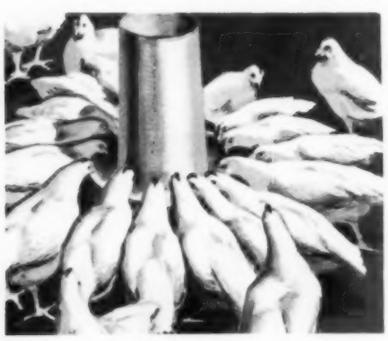


Today's average hen lays 75 more eggs each year than the average in 1935. For this job she needs 61% more phosphorus. Dynamic DYNAFOS helps keep layers busy by providing complete phosphorus nutrition.

100% availability helps breeding herds wean 39% more calves

Rations supplemented with Dynamic DYNAFOS pay off with bigger, healthier calf crops. In Texas feeding trials, cows fed supplemental phosphorus weaned 39% more calves. And the calves averaged 69 lbs. heavier.

100% availability helps today's broilers finish 79% faster than in 1932



Modern broilers produce more meat . . . and do it more efficiently. They need 79% more usable phosphorus than a broiler 20 years ago. The proven high biological availability of Dynamic DYNAFOS assures that your feeds fully meet this need.

100% availability promotes fast, efficient gains in the feedlot

In a 3-month Oklahoma trial, calves fed dicalcium phosphate (such as Dynamic DYNAFOS) outgained calves on soft phosphate by more than 2½ times. Iowa State College results show an extra ½-lb. gain daily from additional dicalcium phosphate in the feed.

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MINERALS International CHEMICALS

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Sales Agents: **EASTERN AREA:** GRANDONE, INC., Needham (Mass.) • SUNSET FEED & GRAIN CO., INC., Buffalo • P. R. MARKLEY, INC., Philadelphia • A. G. GREENE COMPANY, Charlotte (N. Carolina) • EDWARD E. SMITH COMPANY, Atlanta • E. A. CARTER BROKERAGE COMPANY, Tampa • **CENTRAL AREA:** BULLARD FEED COMPANY, Chicago • GOOD LIFE CHEMICALS, INC., Effingham (Ill.) • JOHN F. YOUNG COMPANY, Cincinnati • R. D. ERWIN COMPANY, Nashville • CHAS. F. WILLEN CO., INC., Birmingham (Ala.) • STANDARD SALES COMPANY, Meridian (Miss.) • THE VITA PLUS CORPORATION, Madison (Wis.) • **MIDWEST AREA:** BLOMFIELD-SWANSON, Minneapolis • MERCHANTS CHEMICAL COMPANY, INC., Omaha • M. A. McCLELLAND COMPANY, Kansas City (Mo.) • B. A. LUCIUS COMPANY, Fort Worth • **WEST COAST:** JAMES FARRELL & COMPANY, Seattle • JAMES FARRELL & COMPANY, Compton (Calif.) • **CANADA:** N. D. HOGG LTD., Toronto

A reporter approached a house where a murder had been committed, and started through the entrance. "Go along, go along," a police guard directed, "there's no admittance here."

"But I've got to get in," said the reporter. "I've been assigned to do the murder."

"Well, you're too late," announced the guard. "Someone has already done it. Now go along."

◆ ◆ ◆

An Irishman was sitting in a station smoking, when a woman came in, and sitting beside him, remarked:

"Sir, if you were a gentleman, you would not smoke here!"

"Mum," he said, "if ye was a lady ye'd sit farther away."

Pretty soon the woman burst out again:

"If you were my husband, I'd give you poison!"

"Well, mum," returned the Irishman, as he puffed away at his pipe, "if you wuz me wife, I'd take it."

◆ ◆ ◆

Here lies the body of William Brace;
He sure was one fine fella,
He said in his sleep: "I love you, Grace,"
But his wife's name was Stella.

◆ ◆ ◆

Husband to wife: "What do you say we take this money we've saved toward a new car and blow it on a movie?"

◆ ◆ ◆

I think my premise is correct:
Considering ways and means,
There's a different, over-all effect
When women put on jeans.

◆ ◆ ◆

A mother, annoyed because her 14-year-old daughter had been calling her boy friend too frequently, took a tip from a former wartime advertisement and posted a sign over the telephone: Is This Call Necessary?

Next day there appeared, pencilled on the card, a brief but logical reply: How Can I Tell 'till I've Made It?

"It's a new-fangled idea for pre-stuffed turkey—I'm getting SUCRO-FLAVORed Feed for my last meal"

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FLAVOR CORPORATION OF AMERICA
3037 N. CLARK STREET • CHICAGO 14, ILLINOIS

Vermont Poultry Men Adopt Resolutions

BARRE, VT.—Three resolutions dealing with the promotion of poultry products were adopted by the Vermont Poultry Assn. at its recent annual meeting in Barre.

One of the resolutions called for more self-marketing programs instead of government support. Another favored merchandising programs with less emphasis on "loss leader" advertising.

The third resolution recommended that sale of poultry breeding stock, kept for more than one year, be included under capital gains and losses by the Bureau of Internal Revenue.

REPORT ON BRUCELLOSIS

ATLANTA — Long County is the 26th in Georgia to be certified as brucellosis free under the expanded program to eradicate the disease by 1960, according to Phil Campbell, Georgia Commissioner of Agriculture.

...all you need...

All the help you need for a complete feed manufacturing and selling program . . . that's what the Ultra-Life Program provides you! Tested and proven vitamin and trace mineral fortification products that fully reflect latest nutritional developments; specialized formula service; laboratory and biological testing facilities; tag registrations and printing; advertising aids; your own firm name 16 page poultry and livestock journal, and many other sales and merchandising helps.

Write today for full details . . . see for yourself how the Ultra-Life Program works for you to help you maintain a strong competitive position.

Ultra-Life Laboratories, Inc.
Main Office and Plant East St. Louis, Illinois
One of the Country's Oldest and Largest Manufacturers of Vitamin and Trace-Mineral Products

ANDERSON

VEGETABLE OIL PROCESSES

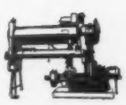
Low Residuals
High Capacities
Economical Operation

EQUIPMENT and PROCESSES for every VEGETABLE OIL BEARING MATERIAL

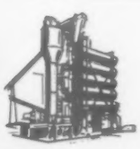
castor beans
copra
corn germs
cottonseed
flax
ground nuts
mustard seed
palm kernels
pecans
rape seed
rice bran
safflower seed
sesame
soybeans
sunflower seed
tung nuts
and many others

ANDERSON PROCESSES

High Capacity Expellers
A high-speed mechanical Expeller screw press process



Grain Expanders
Expand corn, wheat, hominy feed into crisp, palatable, products



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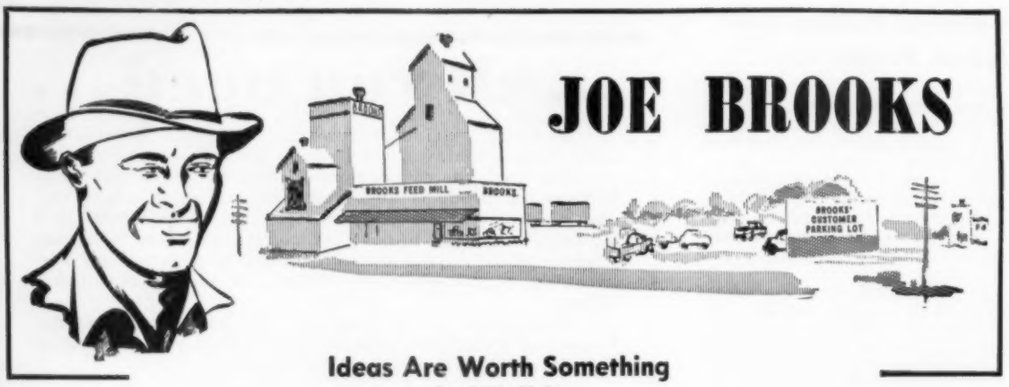

Ideas Are Worth Something

By Al P. Nelson

It was lunch hour at the Brooks Feed Mill, and the employees sat around on feed sacks, their lunch buckets open, slowly munching sandwiches. Milt Peters lay outstretched on a belt conveyor, his head on a feed sack, chewing slowly on a liver sausage on rye.

"Boy," he said, "this is my idea of an ideal lunch hour. No customers asking for quick service, and Joe Brooks off to a fertilizer convention. We're not always this lucky."

Pop Henley winked at Smiley Johnson. "I heard Joe say to Rusty Hagen a couple of weeks ago that he was thinkin' of sticking a tape recorder in the mixing room and warehouse. He figured that maybe he could pick up conversation which customers have with us out here, so he kin analyze it a little better."

"If Joe did that, I'd quit!" Milt said, without getting off the belt conveyor. "I don't want anyone snooping around me with recorders. Holy Cow! You don't think Joe would do that, do you?"

Butterball Barlow shook his head. "Not, Joe. He'd come right out and tell you what he didn't like. He did that when he caught you waving at the girls on the No. 3 train every day, didn't he?"

This remark caused Milt to sit up. "He didn't catch me. Someone squealled on me. And if I ever find out who did it, I'm gonna make it tough for him."

He looked at the rest of the lunching employees, but their faces were immobile of expression, except for the crunching of jaws on food.

At this moment the door from the office opened. Out came Rusty Hagen, the runty, dark haired and dark faced bookkeeper. He carried some sheets in his hand.

"Hi, boys!" he said. "Joe said I should hand these to you late in the lunch hour."

Milt looked puzzled. "But Joe's at a fertilizer convention."

Joe's Orders

"I know," Hagen said patiently, "but he asked me to mimeo these yesterday and pass 'em out today."

Milt sighed. "That Joe. He knows we'll take it easy when he's gone and so this is another idea of his to keep us on the ball."

Pop Henley, age seventy, wise in the ways of employers and employees grinned. "Could be!" he offered slyly.

Smiley Johnson was the first to speak after studying the sheet. "Well, an idea rewarding system. He lists all our names and briefs the ideas each has contributed during the last six months. Not a bad stunt. Shows he appreciates what we do."

"Yeah, but look," protested Milt, "he now expects us to compete with one another every month by bringing in ideas. The guy that gets the best idea wins $10 cash for the month and second prize brings $5. And he gets his name posted, if he's a winner."

Joe Names Judges

"Take a look at the judges," Butterball Barlow offered. "There'll be three. Two employees and Joe. And a different two employees every month, and the two that are judges for one month ain't eligible for prizes that month."

"That's fair," Smiley Johnson said.

Pop Henley coughed. "I see, too, that Molasses Moeller, our mobile unit operator and Frenchy La Fave, his helper, are also in on this contest. So is Ed Eggers and his helpers at the Endeavor Branch."

Milt Peters stretched restlessly on the bag conveyor. "Gosh, the feed business isn't the nice quiet business it used to be," he said sadly. "It's getting speeded up as bad as a count-

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er lunch spot. I hate to see it come to that."

"Maybe we all do," Pop Henley stated. "But that's got nothin' to do with it. The world is progressin' and the feed business has got to progress, too. We've got better and more efficient machinery today and we have to hustle and get enough business in to keep it going."

"And if we keep it goin' Joe makes more money, and can pay us more on our pay incentive basis, and that is what we want," Smiley said.

"And if we don't, then what?" Milt asked.

Butterball snickered. "Why, Milt, Joe would have to operate a one man business if we didn't keep up with progress. The business would support only one man, instead of about 12 now in all the divisions, here, Endeavor and the mobile sections."

"So we're gettin' just like the guys in the city, eh?" Milt asked a little caustically. "We're in the rat race, too."

"Sure," grinned Pop. "But we got rat poison to sell, too, which is something lots of stores don't stock. You like to eat and have a car and all the other comforts of life, Milt, and you've got to join the rat race to get those things."

"Ain't so nice a prospect, is it?" Milt said soberly.

"Better'n what it would be the other way," Pop said. "I know. I lived through the years when business was mighty slow and wages was low. Take, for instance, this pay incentive system Joe has. Nobody I knew offered something like that to employees thirty years ago when I was on the road selling mayonnaise. Now such systems are common in every state. If you ask me, times are much better now than they were years ago. We got more responsibilities — us workers—sure. But we get better pay and more benefits. Hey, it's almost one o'clock. Let's get off our stanchions and get to work. Remember, Joe wants us to get some new, profitable ideas."

Milt got up slowly from the bag conveyor and stretched his arms. "I guess I was just born too late," he said. "If I had been born about 1900 I could have taken things easier. Nowdays all the consolation I got is this little black date book. Boy, what redheads are listed in it!"

1957 Wool Production Less Than 1956 Total

WASHINGTON — Wool production totaled 269 million pounds in the U.S. in 1957, according to the U.S. Department of Agriculture. This total is 4% below the 1956 production of 279 million pounds.

The 1957 production consisted of 235 million pounds of shorn wool and 34 million pounds of pulled wool. In 1956, 239 million pounds were shorn and 40 million pounds were pulled.

The number of sheep and lambs shorn in 1957 totaled 28.5 million head, the same as the number shorn in 1956. The weight per fleece was 8.26 lb. In 1956 it was 8.37 lb.

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MOREA Pre-Mix, as sold to the feed manufacturer, is a balanced combination containing urea nitrogen, ethanol, phosphoric acid and essential trace minerals. Mixed with molasses and fed "free choice" to ruminants along with large amounts of roughage, some grain, minerals and plenty of water, MOREA produces bigger yields of better quality meat and milk at lower cost.

MOREA-fed animals are preferred by leading packers because of their better dressing percentage, higher carcass grade and less waste fat. Dairymen who feed MOREA report increased milk production at lower feed costs. MOREA Liquid Feed Supplement is a rich source of nitrogen and the only feed supplement that contains ethanol, the "hydrogen donor" that enables ruminants to make better use of dietary nitrogen and cellulose.

MOREA is easy to handle and offers the alert mixer-distributor an attractive profit. It flows freely even at below-zero temperatures, and does not attract flies or rodents. It will pay you to get all the facts on the many advantages of this new and different method of ruminant feeding. Mixer-distributorships are still available in certain areas.

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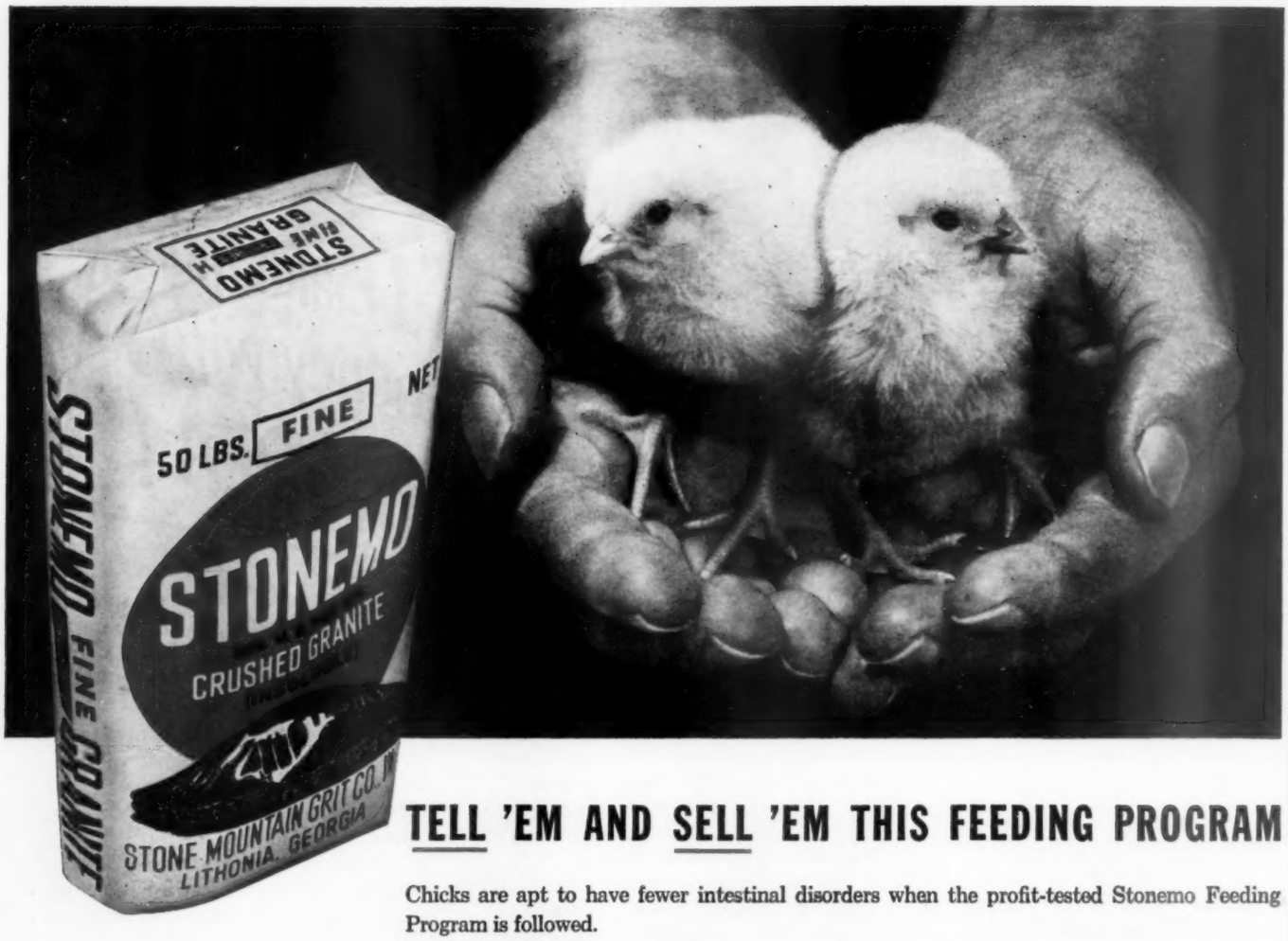

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Chicks are apt to have fewer intestinal disorders when the profit-tested Stonemo Feeding Program is followed.

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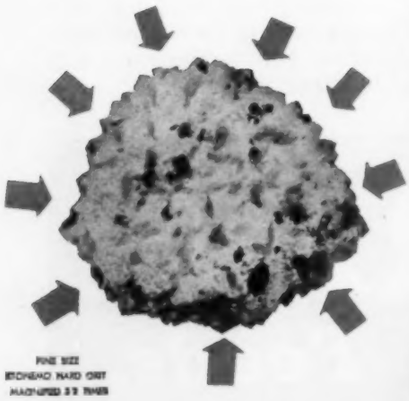
So when you sell the first feed, sell Fine (Chick Size) Stonemo, too. Stonemo will help reduce intestinal disorders, and put more of that body-building mash to work.

Size of STONEMO Important



To the right is pictured Stonemo's Research Farm. Here the proper size grit for each age of bird is tested. Exhaustive studies prove that your poultry growers will get the most from the feed you sell by following these feeding directions for Stonemo:

- Fine (Chick Size) Stonemo for the first 3 weeks
- Medium (Growing Size) Stonemo for the second 3 weeks
- Coarse (Hen Size) Stonemo from the 7th week on

These recommendations are for both pullets and broilers. Turkeys develop better with Turkey Size Stonemo after the 10th week.

Make STONEMO your Assistant Salesman

Whenever you sell feed for pullets or broilers, sell Stonemo with it. Point out how changing to larger size Stonemo the 4th and 7th weeks will increase feed efficiency, step up profits. For further data on Stonemo research results, write:

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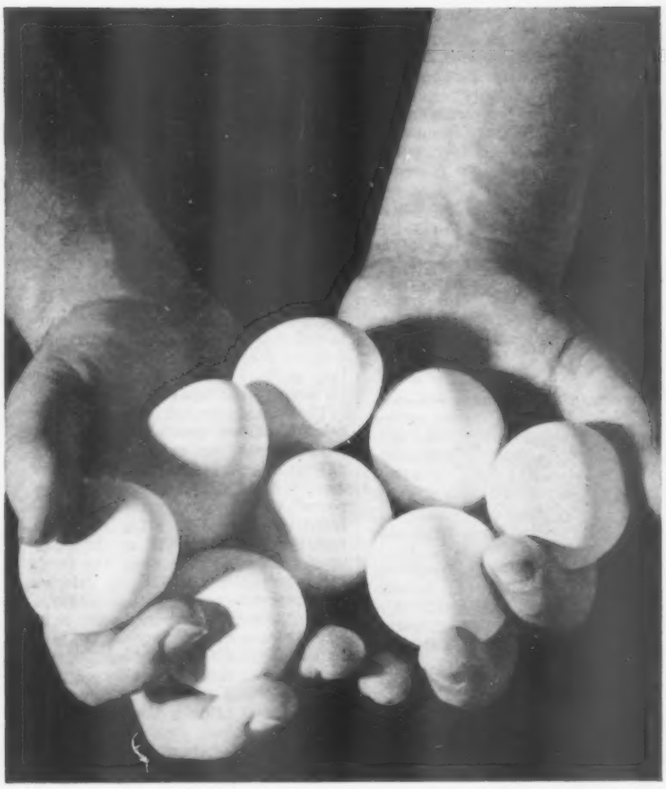

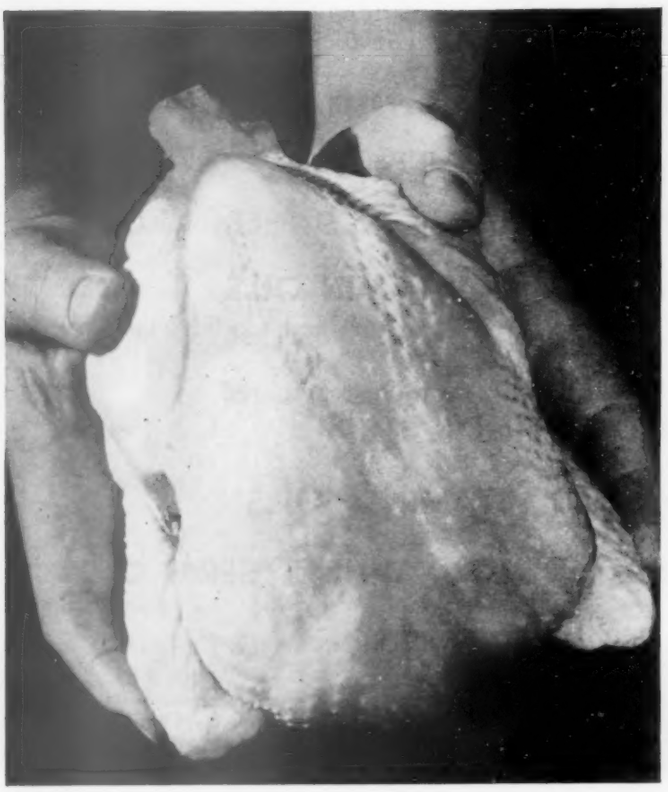

More Eggs From Better Grinding

How many extra eggs your customers get doesn't depend alone on a bird's inherited capacity and the feed formulation. Many times it also depends on how thoroughly and efficiently the birds grind and use their feed.

When Stonemo's extra grinding surfaces rip open the hard film that encases the fine particles of the feed, more of the nutrients are exposed to the digestive acids for better assimilation.

In the latest work of Iowa State, up to 10% more eggs were produced from the same feed when Stonemo was offered free choice, and with better feed conversion.

It's not enough just to sell Stonemo. Sell the Stonemo Feeding Program. Then you will be selling the right size chicken's "teeth" for those extra eggs.

Extra Meat From Better Grinding

If you have broiler customers who are having a hard time making a profit, here is a tip you and they will appreciate. For faster feed conversion into heavier meat – broilers need gizzard teeth that are hard, sharp-cutting, quick-grinding and the proper size.

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- **2nd. Less feed will be used to produce a pound of meat, even on an all-mash feeding program.**
- **3rd. Birds get to market quicker — your customers start the next lot of broilers earlier — save time and money.**

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New and Improved Methods of Using Stilbestrol Supplements In Cattle Fattening Rations

By Dr. Wise Burroughs, Rodney Preston, C. C. Culbertson and Dr. E. A. Kline
Iowa State College

EDITOR'S NOTE: Carcass grades of beef cattle fed stilbestrol had not been evaluated closely enough, concluded the four authors reporting Iowa State College research on energy-protein ratios and stepped-up levels of stilbestrol feeding which appears on this page. By re-evaluating the relatively small ups and downs in carcass grades, changing the ratios of energy and protein, and doubling the stilbestrol levels the last 56 days, they reported significant improvements in the carcass grades and returns per animal. This article is the text of a report presented at Iowa Cattle Feeders Day.

Many experiments have been conducted with fattening cattle during the past four years showing that stilbestrol added to beef supplements stimulates liveweight gains by about 18% and decreases feed costs of gains by about 11%.

These same experiments have also shown that carcass grade is unaltered, on the average, by stilbestrol feeding. However, when one reviews individual experiments critically it is observed that occasionally stilbestrol improves carcass grade in cattle as much as one-third of a federal grade. Occasionally stilbestrol brings about the reverse influence. These relatively small ups and downs in carcass grade in individual experiments have generally been regarded as experimental happenstance observations having no real significance with respect to stilbestrol feeding.

Nevertheless, it seemed worthwhile to re-evaluate them. Such a re-evaluation, it was hoped, might lead the way to new methods of feeding stilbestrol supplements so that all beef carcasses would eventually be improved by stilbestrol usage.

The first attempt to re-evaluate this problem involved a mathematical analysis of the protein and energy make-up of cattle rations fed in a large number of stilbestrol experiments conducted at various agricultural colleges. This analysis revealed a general relationship between the ratio of energy to protein in the cattle ration with respect to whether or not stilbestrol influenced carcass grade. No influence was noted in those rations containing 60 to 65 net energy calories per pound for each percentage of protein in the total cattle ration.

Stilbestrol, however, increased beef carcass grade when the ration contained more than 65 calories. It decreased carcass grade when the ration contained less than 60 calories for each percentage of protein fed.

The second attempt to evaluate this relationship was carried out with fattening lambs. Six rations containing different calorie-to-protein ratios were fed. At the end of the feeding period, the lamb carcasses were analyzed for fatness with the following results: Stilbestrol had no influence upon carcass fatness when the lamb ration contained about 60 calories per percentage of ration protein. When the ration contained more than 60 calories per percentage unit of protein, stilbestrol feeding brought about an improved finish. A leaner carcass resulted when the ration contained less than 60 calories per percentage of protein.

It, therefore, seemed desirable in this experiment to extend these promising observations still further. Thus the first objective of this experiment was to test in a single experiment the influence of stilbestrol on carcass grade when cattle are fed rations

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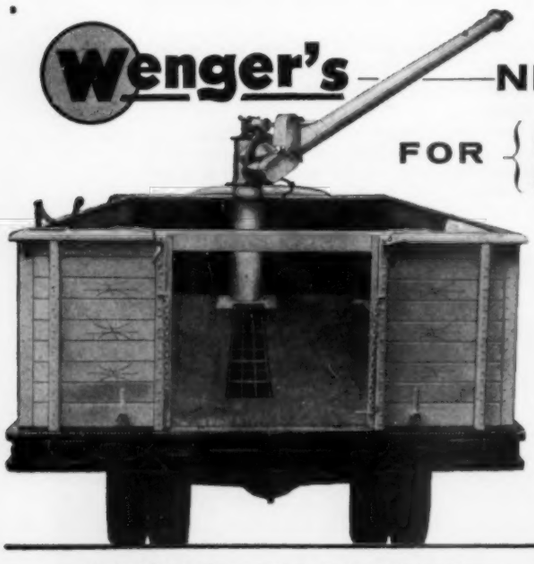

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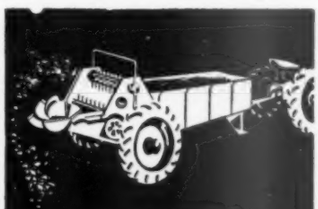

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TABLE 1

	Low calorie-to-protein rations		High calorie-to-protein rations	
No stilbestrol	Group 1 6 lb. hay 2 lb. supp.	Group 7 6 lb. hay 2 lb. supp.	Group 4 2 lb. hay 1 lb. supp.	Group 10 2 lb. hay 1 lb. supp.
Regular amount (10 mg.) stilbestrol	Group 2 6 lb. hay 2 lb. supp.	Group 8 6 lb. hay 2 lb. supp.	Group 5 2 lb. hay 1 lb. supp.	Group 11 2 lb. hay 1 lb. supp.
Regular, then double amount stilbestrol last 56 days	Group 3 6 lb. hay 2 lb. supp.	Group 9 6 lb. hay 2 lb. supp.	Group 6 2 lb. hay 1 lb. supp.	Group 12 2 lb. hay 1 lb. supp.

differing with respect to their calorie-to-protein make-up. A second objective of this experiment was to determine whether beef carcass quality could be improved by increasing the amount of stilbestrol fed the last two months before slaughter rather than feeding a constant amount (10 mlg. per animal daily) throughout the feeding period. It seemed that since the regular 10-mlg. amount was sufficient to produce carcasses of equal quality, it might be logical to feed a larger amount (20 mlg.) when cattle were weighing about 1,000 lb.—approximately double their starting feed lot weight. It seemed that this procedure might result in a new method of feeding stilbestrol which would improve beef carcasses. Thus, the two objectives of this experiment consisted of improved experimental methods of feeding stilbestrol, both of which might result in improved carcass grades and improved quality of edible beef.

Experimental Plan

Two shipments of 36 yearling steers were divided into 12 groups of six animals each and fed six respective rations according to the experimental plan shown in Table 1.

All groups received a full feed of ground ear corn. The six groups, 1, 2, 3, 7, 8 and 9, receiving the low calorie-to-protein ration, were fed 6 lb. of alfalfa hay and 2 lb. of protein supplement per steer per day along with the full feed of corn. These rations contained 12.5% protein and 650 calories of net energy per pound with a calorie-to-protein ratio (650/12.5) of 52. The other six groups, 4, 5, 6, 10, 11 and 12, receiving the high calorie-to-protein ration were fed 2 lb. of hay and 1 lb. of supplement along with the full-feed of corn. These rations contained 9.9% protein and 690 calories of net energy per pound with a calorie-to-protein ratio 690/9.9) of 70.

The supplements consisted of soybean meal and minerals. No stilbestrol was added to the supplements of groups 1, 7, 4 and 10. Enough stilbestrol was added to the supplements of groups 2, 8, 5 and 11 so that each steer received daily 10 mlg. throughout the entire feeding experiment. A similar amount of stilbestrol was added to the supplements of groups 3, 9, 6 and 12 during the first 90 days of the experiment. Double this amount of stilbestrol (20 mlg. per steer daily) was added to the supplement the last 56 days of the experiment.

The cattle were good to choice feeder grade steers. Half were purchased near Mason City, Iowa, (group 1 through 6) and were raised in Montana. The other half (groups 7 through 12) were purchased in Texas. Both shipments cost $23 cwt. as they were weighed on experiment. Three-day weights were recorded at the beginning of the experiment, single weights being taken each 28-day period. At the end of the feeding period (146 days), three-day final weights were taken. The cattle were trucked to Mason City, Iowa, for slaughter. Slaughter grades were recorded by a federal grader. The selling price of each lot of cattle was determined on the basis of dressing per cent and carcass grades, using the final off-experiment weights and shrinking the hot carcass weights by 2.5% as they entered the cooler.

Results and Discussion

1. The results are presented in tables 2 and 3. Both new methods of feeding stilbestrol produced superior results.

2. With respect to the influence of stilbestrol in stimulating liveweight gains and lowering feed costs, it made little difference whether the low energy-to-protein ration was fed or whether the high energy-to-protain ration was fed. Stilbestrol stimulated gains with both rations by about 16%. It reduced feed costs by about 8%.

The important difference between the two rations was the opposite influence upon carcass grades brought about by stilbestrol feeding. In the high energy-to-protein rations (table 1) stilbestrol increased carcass grade by 0.3 of a federal grade. In the low energy-to-protein ration carcass grade was decreased by a similar amount. This result was similar to that predicted from the analysis of earlier college experiments with cat-

(Turn to STILBESTROL, page 76)

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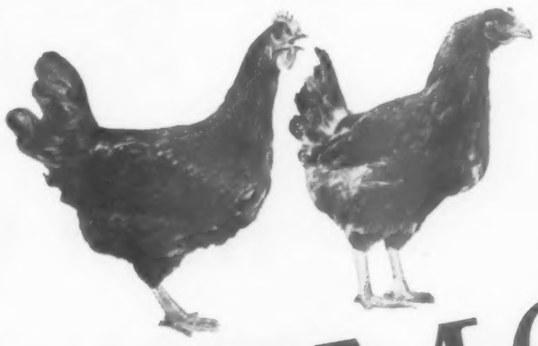

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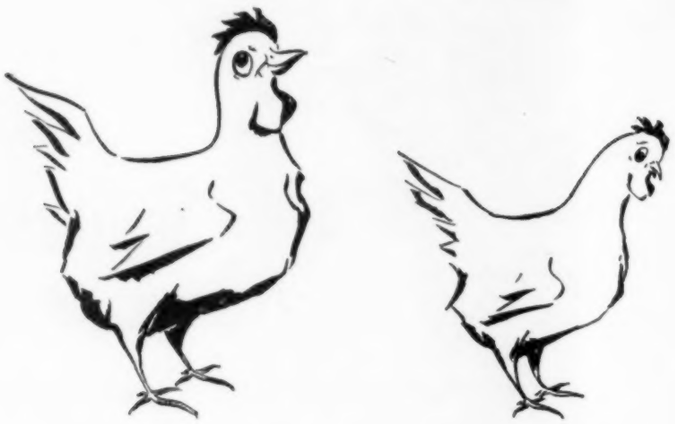

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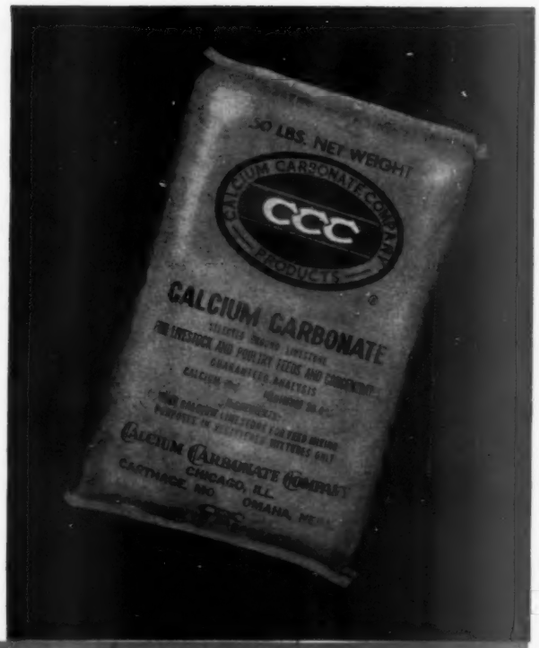

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Feed manufacturers are adjusting their formulations in view of modern nutritional developments. For instance, the growth rate of chickens is twice what it was ten years ago. The proper balancing of feed is becoming ever more important, and to balance feed accurately requires that the components be of a constant high quality . . . The Calcium Carbonate Company with its laboratory facilities and deposits of Calcium Carbonate of constant high purity offers feed manufacturers the best possible source of calcium for making feeds of highest nutritional value for all farm animals.

Feed Service Bulletin Board

Helpful Notes on Feeding and Management for Feed Men and Their Customers

Oats for Fattening Hogs?

It's a good question whether Illinois farmers and others can afford to feed oats to fattening hogs when oat prices are as high as corn prices.

G. R. Carlisle, extension livestock specialist at the University of Illinois, reports recent research at the University's agricultural experiment station in Urbana that helps to answer this question.

Hogs weighing about 100 lb. were fed to 200 lb. on rations that contained one third oats, two thirds oats, and all oats and no corn, Mr. Carlisle reports. These rations were compared with the same ration that contained all corn and no oats. Enough protein supplement was added to give the same protein content in all rations.

Average daily gains were 1.75 lb. on the all-corn ration with no oats at a cost of $9.10 cwt. of gain. When the diet contained one third oats, gains and costs were 1.56 lb. and $10.50; two thirds oats, 1.45 lb. and $10.80, and all oats, 1.31 lb. and $11.65.

Feed prices were figured at $1.35 bu. for corn and 80¢ bu. for oats.

◆

Types of Layers

Most people think that hens are just hens. But hens can be layers, liars or loafers.

When the egg-making mechanism of a hen works right, she is a layer. If part of the mechanism fails, she becomes a liar. If it fails completely, she is a loafer. A liar may sit on a nest for a while and then leave as though she had laid an egg, even though she hasn't.

Don Bray, poultry specialist at the University of Illinois, says loafers are easy to spot by their small, faded combs. A closer look shows a small, dry vent that cannot pass an egg. Usually layers can be separated from loafers by using trap nests.

Liars can be classified as masculine type, shell-less egg type or internal layer type. Masculine hens develop large, coarse combs and spurs typical of those on a rooster. They may also have small, dry vents. This condition often goes with a diseased or tumorous condition of the ovary.

Shell-less eggs are most numerous when the egg-laying mechanism of young pullets is still forming. They are also numerous following a respiratory outbreak. Losses from shell-less eggs can be minimized by proper feeding, careful pullet management and control of respiratory diseases.

Internal layers may form and ovulate normal yolks. But a white or shell is not formed around the yolk. Internal layers will usually reabsorb the yolks and continue to lose pigment from their skin the same as a normal layer. However, the yolk material may accumulate, causing enlargement of the abdomen and eventual death.

According to Mr. Bray, there is no known treatment or cure for either internal layers or masculine-type hens.

◆

Grain Sorghum Feed Value

Increasing the efficiency of grain sorghum utilization in beef cattle rations depends on two factors, according to Dr. John Matsushima, University of Nebraska animal husbandman.

The texture or fineness of grind of the grain sorghum and also the

(Continued on page 38)

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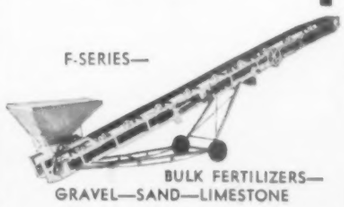

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Not even a combination of the 5 drugs listed in the chart can equal the disease-fighting protection of Terramycin

Terramycin's broad range of activity is the reason why it is the drug of choice for your feed use

When animals or poultry become sick, your customers want the most effective drug they can find to fight the infection.

As this chart shows, Terramycin is by far the most active of the 6 drugs against these 31 important diseases.

Some of these diseases must be treated by special dosage forms, such as injection which gets a high level of Terramycin into the blood stream of the animal fast. Others can be treated by tablets or in the water if animals are off feed.

In many cases, the most efficient and economical treatment is through the feed.

That's why high level feeds with Terramycin have become so important in raising livestock and poultry.

Range of activity is important

Average growers are not always able to predict the exact disease condition which may appear. When your feed contains Terramycin, your customers' chances of achieving good results are much greater than would be possible with a limited-range antibiotic.

Proper levels are important

To be effective any drug must be present in adequate amounts. Your high level feed, made with Terramycin at recommended levels, will effectively treat the conditions indicated.

Some feed manufacturers are now experimenting with much higher levels to increase the effectiveness of their feeds against even more diseases.

Don't settle for less

Substitution of drugs with less activity, to achieve the possible saving of a few cents a ton, risks the effectiveness of your feed and possible loss of customers' livestock or poultry.

Today, more farmers and feeders name Terramycin as their first choice over all other antibiotics. This choice is based on the excellent results they have obtained with feeds containing this proven antibiotic.

EFFECTIVENESS OF VARIOUS DRUGS
AGAINST LIVESTOCK AND POULTRY DISEASES
(in feed unless otherwise indicated) information based on available literature

DISEASE	ORGANISM	TERRAMYCIN	FURAZOLIDONE	BACITRACIN	PENICILLIN	SULFONAMIDES	STREPTOMYCIN
ANAPLASMOSIS	PROTOZOA	●					
HEXAMITIASIS			■				
FOOT ROT	ACTINOMYCES	★				■	■
ACTINOMYCOSIS (LUMPY JAW)		●			●	■	
ERYSIPELAS		●			●		
ENTEROTOXEMIA (OVEREATING)	GRAM POS BACILLI						
ANTHRAX		●			●		●
BLACK LEG		●			●	■	●
MALIGNANT EDEMA		●			●	■	●
MASTITIS	GRAM POS COCCI	■			●	■	●
PNEUMONIA		★			●	■	●
STRANGLES		●			●	■	●
LYMPHADENITIS (JOWL ABSCESS)							
CHRONIC RESPIRATORY DISEASE	PPLO GROUP	★	■	■	■	■	■
INFECTIOUS SINUSITIS		★	■	■	■	■	■
BLOODY SCOURS	GRAM NEGATIVE BACILLI		■				■
BABY PIG SCOURS			■			■	
WHITE SCOURS (CALVES)						■	
SALMONELLOSIS			■				
PINK EYE		■				■	
MASTITIS		■					■
LEPTOSPIROSIS	SPIROCHAETES	★					●
SPIROCHETOSIS		●			●		
BLUECOMB	NON-SPECIFIC OR UNKNOWN ETIOLOGY		■				
SYNOVITIS		★	■				
ATROPHIC RHINITIS			■				
HEMORRHAGIC SEPTICEMIA (SHIPPING FEVER)		★			●	●	●
ENTERITIS			■	■			
BLOAT							
PSITTACOSIS (ORNITHOSIS)	LARGE VIRUS	★					●
HEARTWATER DISEASE	RICKETTSIA	●					

LEGEND
■ EXCELLENT ACTIVITY
■ MODERATE ACTIVITY
□ SLIGHT ACTIVITY
□ NO ACTIVITY OR NOT USED

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★ IN FEED OR WATER and or INJECTED
● INJECTED ONLY
■ INJECTED, INFUSED OR USED EXTERNALLY

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   (to maintain weight gains in presence of this disease)
2. Enteritis
3. Leptospirosis
4. Pneumonia
5. Baby pig scours

Even a combination of bacitracin, penicillin, sulfonamides, streptomycin and furazolidone will not give your swine feeds the coverage you get with Terramycin alone.

What's more, Terramycin offers the added advantage of broadest-range effectiveness against secondary invaders . . . plus Terramycin's well-known ability to stimulate appetites and speed growth.

That's why, when your swine feed contains Terramycin, you can be sure your chances of delivering good results are much greater . . . your assurances of complete customer satisfaction much better . . . than would be possible with any limited-range antibiotic.

Your Pfizer representative will be glad to supply any information wanted. See him soon.

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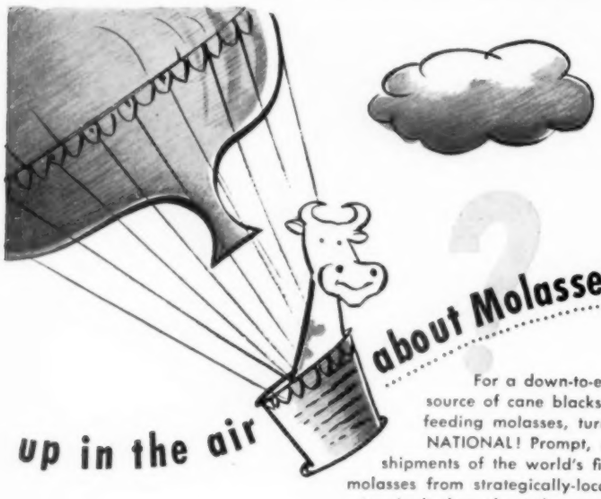

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ADVISORY BOARD—Four new members were named to the advisory board of directors of Central Soya Co., Fort Wayne, Ind., announced Harold W. McMillen, chairman of the board of directors. The new members are: James R. Cowan, general auditor; Paul E. Hensel, vice president, personnel; A. J. Powell, general credit manager, and Newell Wright, marine and truck division manager. Retiring members are: R. N. Allen, assistant secretary and controller; J. L. Andreas, assistant to the president; W. W. Cravens, director of feed research and nutrition, and B. A. Townsend, vice president of meal and oil sales. The advisory board studies company problems and transmits ideas as unanimous recommendations to the firm's board of directors. Members of the board are (seated, left to right): Norman H. Witte, assistant technical director; Robert B. Parrott, vice president, grain merchandising; E. G. Rose, assistant controller; Howard Watters, personnel and industrial relations assistant; Mr. Hensel, and E. P. Kovats, northern division sales manager. Standing (left to right) are: Tom Allwein, Decatur plant manager; Wendell Mann, Chattanooga plant manager; Royle L. Sprunger, assistant general traffic manager; Max Kernen, eastern district sales manager; Mr. Wright; E. E. Reynolds, director of feed sales; E. O. Huge, retail stores division manager; Mr. Cowan, and Mr. Powell.

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amount of sorghum fed in the ration will affect any increase in efficiency, he said. If the grain sorghum is cracked or ground so that it is not too fine or powdery, there could be an increase in the feed value of the grain sorghum as compared to feeding whole grain sorghum.

"Feeding whole grain sorghums as part of the grain mixture (half ground shelled corn and half grain sorghum whole) will not necessarily increase the feed value of grain sorghums," Dr. Matsushima concluded.

◆

Key to Laying Slumps

Every year about this time poultrymen complain about drops in production and birds going out of condition. Why does egg production in one flock drop while a neighboring one doesn't?

The usual reason given for drops in production is that "the weather turned cold," or "there was a sudden change in the weather." Should these reasons be accepted, or should a little investigating be done? Why didn't the neighbor's flock drop? He had the same weather change.

What causes production drops? Usually it's due to stress or a series of stresses, says Irving J. Mork, extension poultryman at North Dakota Agricultural College.

If birds have lice or mites or both they have severe stresses. Perhaps the numbers of lice or mites were not enough to cause trouble when the weather was mild. Perhaps now they have built up in population.

The point is, don't let this problem occur. Keep watch of the flock, urges Mr. Mork. Examine birds frequently and if lice or northern fowl mites are found on the birds, or red mites around the roosts or nests, start treatment at once. Don't examine the best birds. Lice usually attack the poorer birds first.

Nicotine sulfate on the roosts will kill lice, he says. Carbolineum or old motor oil applied around cracks will kill mites. Malathion on the roosts will control lice, mites and northern fowl mites.

Grant Made for Work On Ruminant Digestion

COLUMBIA, MO.—A research grant of $3,000 has been received by the University of Missouri from Vitamins, Inc., Chicago.

The grant is for a research project on ruminant digestion being directed by Dr. William H. Pfander, department of animal husbandry. It will be applied to research carried out from July 1, 1957, to June 30, 1960.

The research is concerned with the problem of speeding the adjustment of the digestive system of ruminants from high-roughage feed, such as pasture and hay, to feeds consisting mostly of grains.

The problem involves primarily an adjustment of the microorganisms, or bacteria and protozoa, in the rumen to the changes in diet.

"The effects of a too-rapid changeover from roughage to concentrate can be very serious," Dr. Pfander said, "especially when cattle are taken off pasture in the late fall and put on grain feed in the feedlot.

"When the micro-population does not adjust to the quick change in diet, digestive disturbances and even death can result. The injuries following changeover also have been associated with liver damage and with scars in the digestive system.

"Organisms obtained from animals adjusted to the high grain rations are being tested in the research project. The researchers are trying to determine whether feeds mixed with such materials aid animals and their microorganisms in making the necessary adjustment. Various physiological conditions that might hasten the adjustment are also being studied."

NEW STORAGE INSTALLATION

WAMEGO, KANSAS — Peddicord Bros., owner of the Wamego Seed & Elevator Co., will erect a new all-steel storage installation with a capacity of 100,000 bu. at its premises here, it is announced by Robert L. Peddicord, manager.

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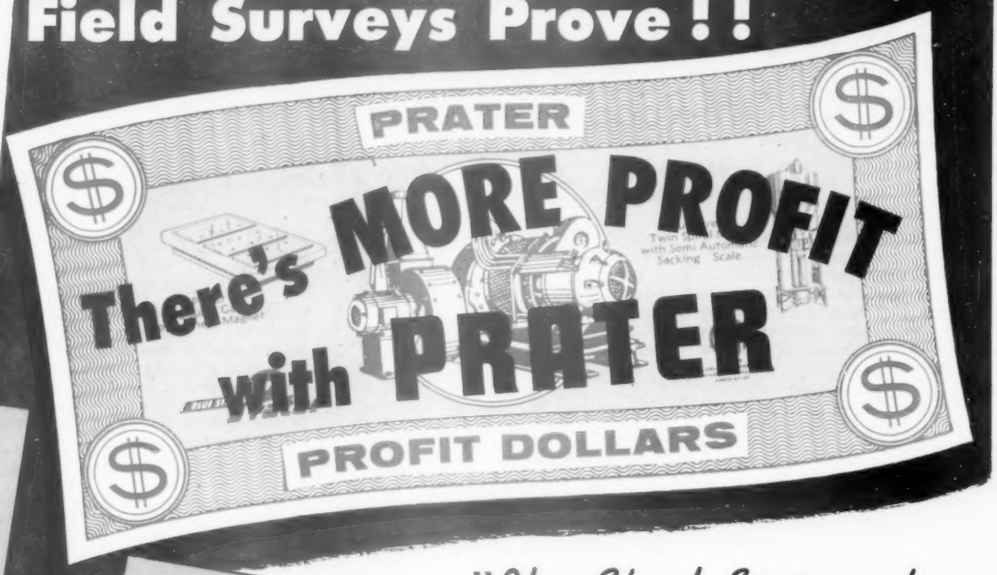

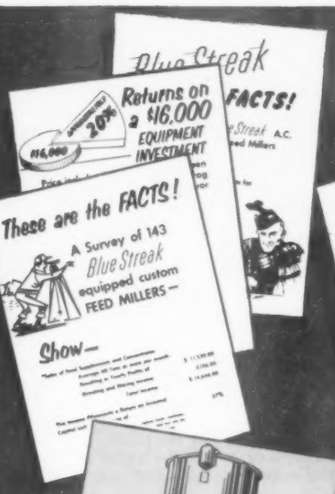
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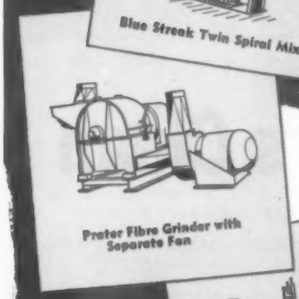

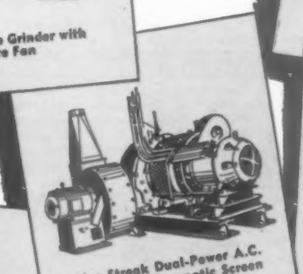

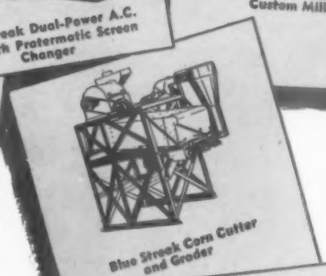

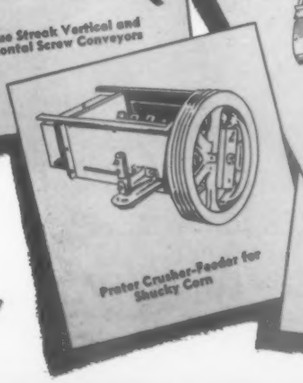

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BUILDS DROP-IN TRAFFIC

Roadside Display Case Boosts Trade for Off-Road Feed Firm

By Al P. Nelson
Feedstuffs Special Writer

Many retailers today are spending money to display their merchandise better and in larger quantities, so that the merchandise is readily available, under good lighting, for customers to see. These alert retailers know that the more customers can see, the more they will buy.

But how about the feed mill owner who has a large and profitable mill set back some distance from the highway? What opportunities for display does he have—that is, display which will catch the attention of the many farmers, gardeners and half-acre rural residents who speed by on the highway to and from town?

Merrill and Lee Gates, who own the Randolph Feed & Supply Co., East Randolph, N.Y., have an answer to this problem. Their mill is about 150 ft. from the highway. They have a retail store inside the mill which is well patronized, but the brothers realized they were not getting drop-in trade. And they figured that this was due to the fact that they had no roadside display facilities.

So, at a cost of about $1,200 they constructed a 12 by 42 ft. roadside display store, very close to the highway. It is of sturdy frame construction, has a plank floor and doors on tracks so that merchandise can be moved in and out very easily. The sides of this building are covered with heavy woven wire so that thieves cannot get in very easily, nor can rodents. Building corners are of concrete.

Lighted at Night

This roadside feed store is lighted at night. There is an automatic clock which turns off the lights, usually at 11 p.m.

Many farmers drop in the feed mill early in the morning and say, "Say, I saw a display of fertilizer when I went by at 10 last night. Reminds me I want some. What's your price?"

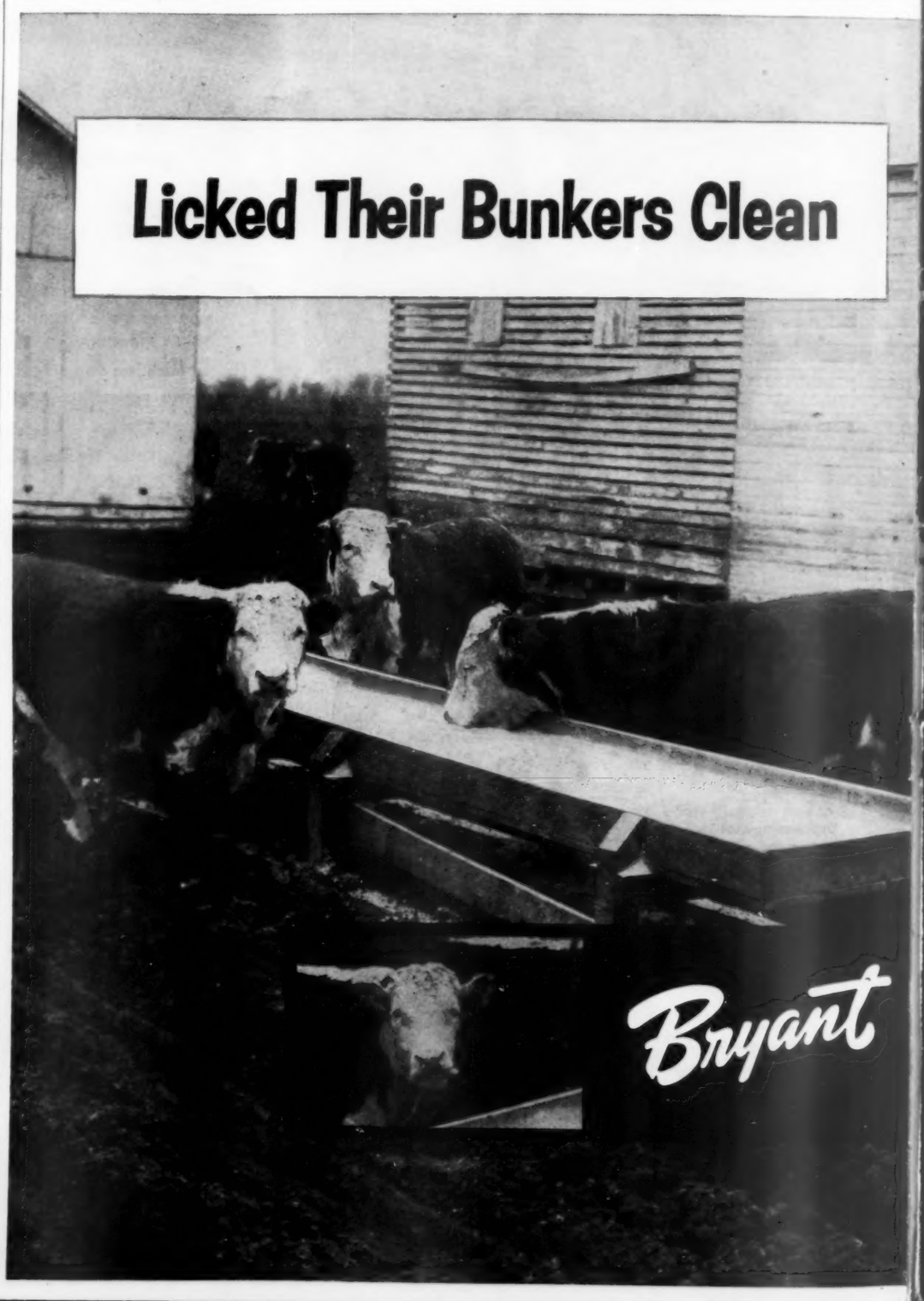
"The advantages of a roadside store like this are many in our case," states Merrill Gates. "In the first place, we can show over a period of time practically all the merchandise we have in stock. Also, we can show it to 10 times the number of people that come into our store.

"Secondly, we can capitalize on night traffic. Even if our store isn't open at night, farmers and gardeners dropping by will remember it and come in the next day. That store gives them buying ideas. We are very glad that we decided on this roadside store rather than building another retail store addition to our mill."

"Lots of people tell us that they are surprised at the wide variety of merchandise we carry, especially in fertilizers, insecticides, sprayers and farm tools," says Mr. Gates. "Many of them thought we handled only feed."

"If we had to move all this merchandise out of our mill every day and display it alongside the road, and

CLOSER TO THE ROAD—This is the Randolph Feed & Supply Co., East Randolph, N.Y., a firm which found a happy solution to a familiar problem. As indicated in the picture, the mill is quite far back from the road—so far back that it wasn't catching the eye of the passersby. The answer was the small woven wire and wood building in the right of the photo. It is a roadside display stand which gives persons traveling by on the highway (not shown, to the right of the display stand) a chance to see what the feed and farm supply firm has for sale.



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THE JERSEE CO. MINNEAPOLIS MINN.
WRITE TODAY FOR DEALERS SALES HELPS!

APPEAL TO DROP-IN TRADE—Merrill Gates, one of the brothers who own the Randolph Feed & Supply Co., East Randolph, N.Y., shows how the firm's display case alongside the road is built to allow easy movement of equipment in and out of the case. The other side of the stand is exposed to the highway. It is lighted until 11 p.m. Mr. Gates said the stand has built drop-in business and has also served as a reminder at night to farmers passing by that there are things they should be buying at the Randolph Feed & Supply Co. the following day.

then haul it back in again at night," explains Merrill, "the labor costs would certainly run up. From a labor saving standpoint, this building paid for itself in a hurry."

Feed dealers from many parts of the East have made trips to East Randolph to see this roadside feed store, and many of them said that they might try something like this in their localities. The idea may not be applicable to many feed stores where the building is close to the street or highway, but for the mill which is back some distance, it is a good idea.

Then, too, points out Mr. Gates, such a building makes an inexpensive auxiliary display room which can be placed almost anywhere on a dealer's land, near or far away from the mill —in the most strategic place.

"We have noticed a definite increase in the sale of seasonal goods when displayed in this outdoor store," says Mr. Gates. "This is especially true with power lawn mowers, garden tractors and garden and lawn tools."

Outside of the roadside store, the Gates brothers display feed augers, conveyors and elevators, items which many farmers buy. The Gates sold 12 cross bale elevator undercarriages at a price of about $225 each. Outside display brought in many of these customers.

Variety of Merchandise

The firm even stocks and sells small concrete mixers, because many farmers today do a great deal of their own cement construction around the farm. Farm wagons are also sold by this firm.

In another auxiliary building adjacent to the mill, the Gates brothers carry a large stock of oils, building supplies, metal roofing, roof cement, cement, fertilizers, ladders, Jamesway equipment, and the like. These are related lines which fit in very well with the needs of farmers and small town residents in the county. The sales from these lines help the Gates brothers in achieving a stable, all-year-around business.

The backbone of the entire business is, of course, the feed mill and its facilities. This mill is more than 100 years old, and it is a landmark in the area. Merrill and Lee Gates bought the mill and store in 1949 and have been improving it each year.

Equipped with water power and electric power, this mill now has considerable equipment. This includes Sprout-Waldron molasses blender, a 2-ton Sprout-Waldron mixer, a ½-ton Eureka mixer, a 40 h.p. Schutte hammermill and also two Burrows conveyors. Each of the latter is worth two to three men, reports Merrill Gates, for its convenience and less expensive handling of materials.

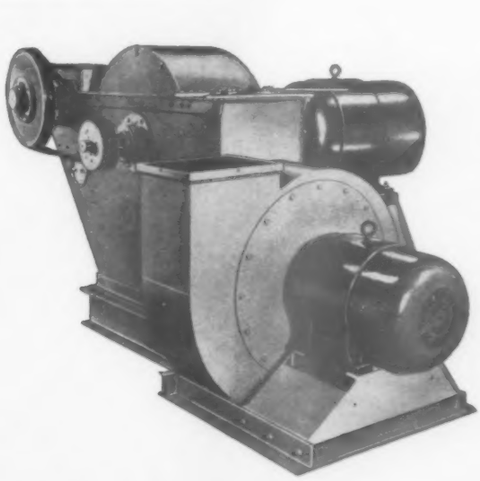
Complete Service

If the farmer wants his grain picked up, brought to the mill, ground and mixed according to his requirements and then taken back to the farm, the Gates brothers extend this service.

The Gates brothers handle Wayne Feeds, but also make their own line of RFA feeds which have a good acceptance in the area. They make poultry, hog, dairy and calf rations.

Some years ago Life magazine published a picture of this mill's waterfall, which furnishes some power for the mill. As a result many tourists stopped at the mill and asked to see the waterfall.

"We think we have a pretty well-balanced feed business," reports Merrill Gates, "but merchandising conditions change so quickly we know we will have to continue to be alert in order to supply customers with the products and the services they want for varied requirements. Now that we have the roadside feed store, too, and are showing a wider range of merchandise, we have increased our newspaper advertising somewhat so as to reach more customers. We try in this advertising to show people the many products that we have for the farmer, the homeowner, the gardener and also the user of building supplies."



The Bryant Double-Duty is perfectly balanced and gives a clean uniform grind. The exclusive "Straight-Through Air Flow" action gives you full capacity always. never any choking or plugging.

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writes Lexie Kennedy, Newton, Ill. Feed Mill operator and Stock farmer

Lexie Kennedy knows from personal experience that farmers get the kind of grind that stock thrives on from a Bryant Hammermill.

A stock raiser himself, Lexie Kennedy also owns a Bryant Hammermill and writes of his results as follows:

"We've been feeding steers for 5 years. Started feeding 65 head last September. They ran about 675 pounds on the average and now (March, 1957) weigh about 1100 pounds each. They're gaining about 3 pounds a day and should go around 1300 pounds apiece when we market them in the next 60 days.

"We're feeding ground corn mixed with a supplement. We grind corn, cob and all right through our Bryant with a crusher-feeder attached.

"We've noticed the Bryant Hammermill gives us a good, uniform granular grind with no fine flour or dust. Cattle don't enjoy coughing from dust in the feed, but they licked the bunkers clean first time we ground feed in our Bryant.

"As for the Bryant Hammermill itself, we like it fine. Never chokes up or plugs. It's quiet in operation and changing screens is simple and quick.

"The straight-through air flow design and 1800 RPM fan running on its own motor is the most practical all around arrangement we've seen yet.

"Like a good many Bryant Hammermill operators we believe our service to our customers should include information about market conditions and the latest feeding techniques. We do our best to supply these and other extras that don't appear on the bill."

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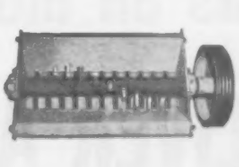

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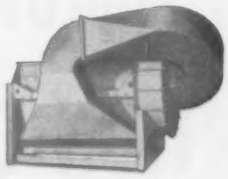

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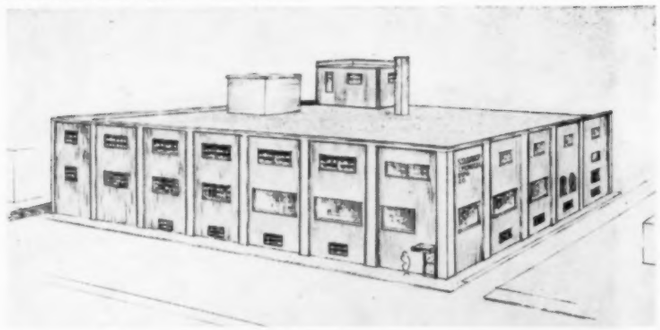

NEW STANDARD CHEMICAL PLANT—This is the way the Standard Chemical Mfg. Co. plant at Omaha will look after proposed alterations are completed. Plans call for enclosing the present building with metal paneling, putting on a new roof and enlarging and remodeling the office space. The company produces vitamin and other feed mixes.

Standard Chemical To Enlarge Plant

OMAHA, NEB.—Plans for a substantial plant enlargement have been announced by the Standard Chemical Mfg. Co., Omaha, producer of vitamin and other feed mixes. The building program will include a two-story and basement addition to the present building and a refacing and remodeling of the present plant. Dwyer & Kite, Kansas City, is architect and engineer for the project.

The Standard plant will be converted to a bulk handling operation with the addition of three 20-ton bins and two 40-ton bins and corresponding handling equipment. Additional machinery will be added to give the company a substantial potential for increased production. Mixers, semi-automatic weighing equipment and automatic packers are included in the plans. A shipping conveyor will be installed to move products from the basement to first floor.

Alterations to the present plant will involve enclosing the present building with metal paneling, and putting on a new roof. Office space will be enlarged and remodeled.

Work on the project is scheduled to start April 1 and is expected to require about four months to complete.

T. J. Wurdeman is president of the Standard company.

"Deionized" Molasses Lowers Moisture Level In Chick Droppings

HONOLULU, HAWAII—A process which removes the potassium ion from cane molasses has been reported by the University of Hawaii Agricultural Experiment Station to be an effective way of reducing moisture in the droppings of chickens fed high molasses levels.

Ernest Ross and Allan Kondo, poultry researchers at the station, said removal of the potassium ion reduces the ratio of water consumption to molasses consumption considerably and also results in a significant reduction of actual fecal moisture.

Although the use of cane final molasses as a poultry feed supplement has had good results at levels as high as 15 to 35%, the excessive fecal moisture resulting from the use at high levels has brought the problem of soiled eggs from hens in cages and a coccidiosis problem for those on litter.

Earlier work by Rosenberg and Palafox indicated that the potassium ion, which is usually present in cane final molasses in fairly high concentration, is the principal agent responsible for high fecal moisture.

Researchers removed the responsible ions from the molasses by passing it through an exchange column, a process which removes most other minerals as well as the potassium ions. The resulting product has been termed "deionized molasses." The amount of ions removed is dependent on exchange resins, rate of flow and amount of recycling.

Reporting on trials using this deionized product, researchers said that in their first trial a partially deionized molasses was used with a potassium content of approximately one-third that found in the original molasses. This product was fed at graded levels as was regular cane final molasses to day-old chicks for a four-week test. Water consumption data were taken the last two weeks of the test.

The data show that young growing chicks on a standard ration will normally drink about 2 grams of water for each gram of feed consumed. With increasing levels of molasses, however, the ratio of water to feed consumed also will increase so that at the highest levels of molasses fed (some 30%) almost twice as much water is consumed. This water must be eliminated, and it shows up as fecal moisture.

But the data also showed that the groups receiving the deionized molasses consumed considerably less water than corresponding groups receiving untreated molasses, and the droppings were subsequently drier.

In the second experiment, almost completely deionized molasses (.05% K) was tested over a two-week period in chicks. This time fecal moisture data were collected rather than the water consumption. The experiment showed that birds on the deionized molasses had fecal moisture considerably lower than groups on regular molasses.

An increase of approximately 3% of fecal moisture over basal is enough to cause objectionably wet droppings, they said. Chicks on 30% molasses, for example, were almost 5% over a standard ration in fecal moisture while those fed the deionized molasses at 30% had increased fecal moisture of less than 3%.

Further tests are planned with broiler chicks and laying hens to more fully evaluate deionized molasses, the report said.

Clyde W. Thompson

JOINS McMILLEN — Clyde W. Thompson has recently joined McMillen Feed Mills, division of Central Soya Co., Fort Wayne, Ind., to handle special sales assignments. The announcement was made by Edward E. Reynolds, director of feed sales for the firm. Mr. Thompson has been associated with the feed industry since 1939. He was previously manager of marketing services for the A. E. Staley Manufacturing Co., Decatur, Ill.

Michigan State Plans New "Ag" Dictionary

EAST LANSING, MICH.—A new agricultural dictionary developed by more than 50 agricultural authorities at Michigan State University is expected to be off the press Sept. 1.

According to Dr. John Wilburne, senior editor, the book is the first major agricultural dictionary to be published in the U.S. since before 1900. The book will contain between 30,000 and 33,000 entries covering all areas of agriculture and will run around 1,200 pages.

Compiling editors have combined a strict dictionary and an encyclopedic approach. Words and phrases used in agriculture are defined and their implications for agriculture are included. Descriptions average around 30 words. Michigan State University press is publishing the dictionary.

BEGINS BULK SERVICE

SHELBY, N.C.—Lee's Feed Store, Shelby, has begun a system of bulk feed delivery to its customers. A truck has been equipped to load feed directly into farmers' feed bins.

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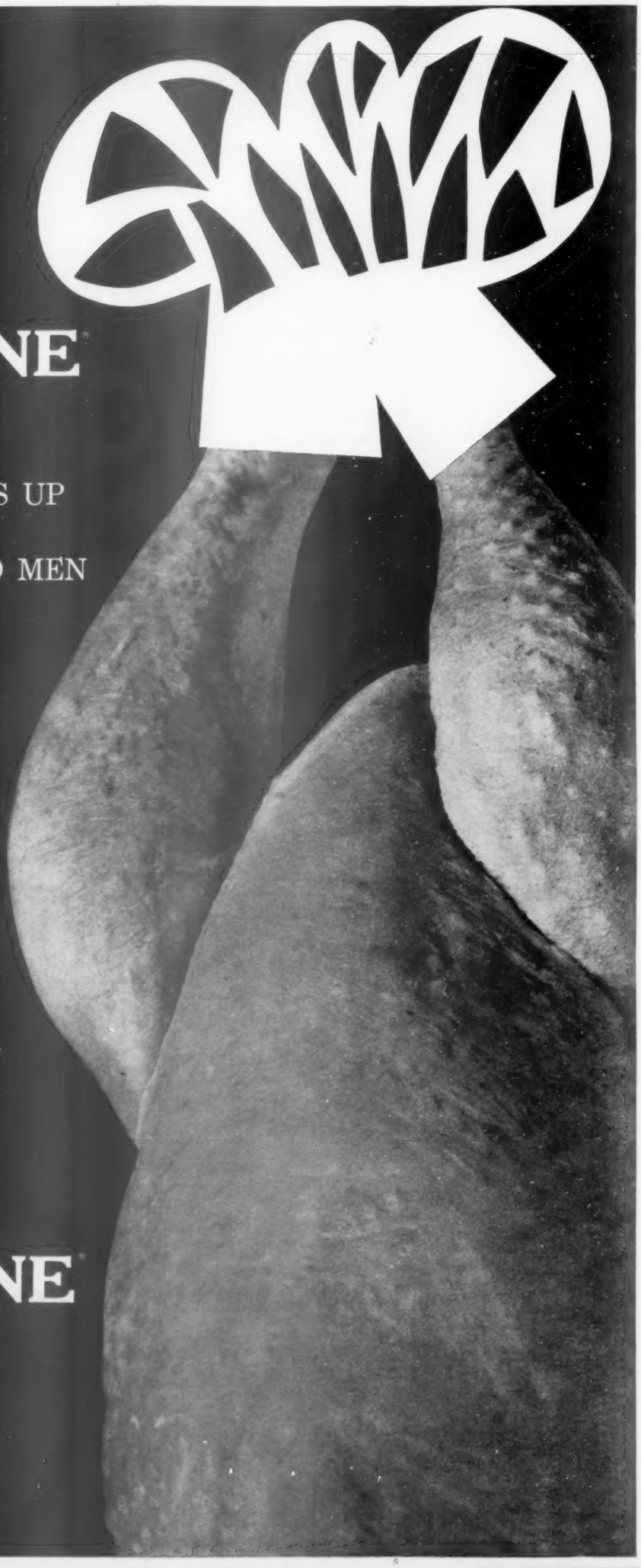

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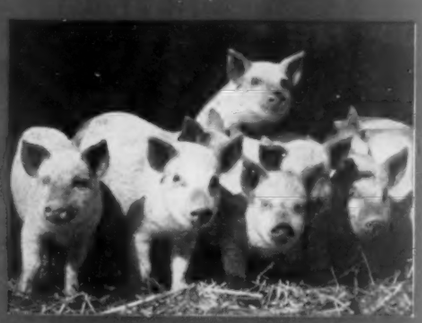

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Spring Lamb Crop Increase Of 2% Estimated By USDA

WASHINGTON—The 1958 early-spring lamb crop in the principal early lamb producing states is estimated to be about 2% above the 1957 crop, according to the crop reporting board of the U.S. Department of Agriculture.

The larger early lamb crop is due to both an increase in number of breeding ewes and a higher lambing percentage (lambs saved per 100 ewes). The estimated percentage of ewes lambing early in these states is the same as last year.

The increase in the number of early lambs is accounted for by increases in Texas, the leading lamb producing state, and the Pacific Northwest.

The number of breeding ewes on farms and ranches Jan. 1, 1958, was above the previous year in six of the 10 important early lamb states. The 10 important early lamb states are Missouri, Virginia, Kentucky, Tennessee, Texas, Idaho, Arizona, Washington, Oregon and California.

In general, weather and feed conditions have been favorable for the growth and development of the early lamb crop except in the southeastern states where persistent below normal temperatures have prevailed. In the southeastern states supplemental feeding has been required.

Texas: Present indications point to an early lamb crop much larger than last year's relatively low spring crop. The number of breeding ewes is up 1%, and the lambing percentage will be higher. Indications also point to a higher percentage of ewes lambing earlier than in recent years.

California: The early lamb crop in California is smaller than last year, reflecting a decline in lambing percentage. The number of breeding ewes on Jan. 1, 1958, was the same as a year earlier. Present indications point to about the same proportion of the ewes lambing early, as in 1957.

Arizona: The early lamb crop is expected to be smaller than last year. Weather was mild throughout the winter months. Pastures and lambs are in excellent condition and lambs are making rapid progress.

Northwestern States: The early lamb crop in the three important northwestern states is expected to be larger than last year. The number of breeding ewes is up 4% and the proportion of ewes lambing early is about the same. Winter weather conditions were ideal for lambing and for growth and development of early lambs. Lamb losses have been light.

Idaho: Early lambing in the Southwest and south central areas was nearly over by March 1, while shed lambing was just starting in the East.

Washington: Feed supplies have been abundant all winter and a large carryover is assured. Pastures are in excellent condition and earlier than usual.

Oregon: Pastures are in excellent condition and much earlier than usual due to mild weather and adequate rainfall.

Southeastern States: Reports from three important southeastern states indicate the early lamb crop will be slightly less this year than last. The number of breeding ewes was up slightly, but lambing percentages and the proportion lambing early were down.

Virginia and Tennessee: Weather conditions were unfavorable for early lambing and for the growth and development of early spring lambs. As a result of cold weather, pastures and winter crops have made practically no growth.

Kentucky: The early lambing season was relatively favorable except for the last half of February when temperatures were below normal. Feed supplies have been short and heavy supplemental feed has been necessary.

Missouri: Indications point to a substantial decline in number of early spring lambs. This is due in part to the 7% decline in the number of breeding ewes and in part to a lower lambing percentage.

DISTINGUISHED SALESMAN — The distinguished salesman award of the Sales Executives Club, New York, is being presented to Winston Wrinkle, feed supplement division of Chas. Pfizer & Co., Inc., Minneapolis. Making the presentation is John W. Hubbell, president of the club, as James A. Farley, former postmaster general and now chairman of the board of Coca-Cola Export Corp., looks on. Mr. Wrinkle received the distinguished salesman trophy after being nominated for the honor by his company as its outstanding salesman of the year. Other salesmen from 50 U.S. corporations were also honored at the banquet.

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Mixers and Mixing In the Feed Plant

By G. A. Carlson
Strong-Scott Mfg. Co.

EDITOR'S NOTE: The accompanying article is from a talk by Mr. Carlson at the feed mill production school sponsored by the Washington State Feed Assn. The author—who is chief mechanical engineer for the Strong-Scott Mfg. Co., Minneapolis—presents information and comments on various types of mixers and mixing operations. He is a registered mechanical engineer and attended the University of Minnesota and Dunwoody Institute. He has been with Strong-Scott since 1951.

* *

We are all aware that mixing is a very important phase of operations in any feed plant. Mixers vary in type, size, capacity and, most important, mixing efficiency. Two basic mixing principles are being used today, namely, batch and continuous. Continuous line mixing is used exclusively in production plants, whereas batch mixing is used both in production and custom plants.

Production feed plants are operating both batch and continuous systems with good mixing efficiency. When we talk to feed production men, the best system seems to depend upon the mixing method they are using. It is impossible to determine the best method, except to say that some batch mixing is also done in most continuous line plants for special mixing operations. Batch mixers are used for premixes for the mixing line and for mixes with small micro-ingredients such as medicants in calf milk replacers, etc.

Continuous Mixers

Continuous mixers are used as dry and liquid blenders for production line operation. These mixers are ordinarily used following an ingredient percentage feeder line discharging into a screw conveyor or belt under the feeders. The screw conveyor, or belt, is discharged into a continuous mixer where dry ingredients are mixed, and liquids may also be added in the same machine. Continuous mixers are available with capacities up to 40 tons per hour.

Twin and single rotor continuous mixers are the types commonly used.

G. A. Carlson

The mixing efficiency of these mixers is good, but can be no better than the percentage feeder settings in the line. This presentation would not be complete without a comparison of the advantages of the two machines.

Twin rotor advantages are as follows:

1. Slow speed for minimum breakage of rolled grains, beet pulp, etc.
2. Higher capacity per h.p. per hour of mixed feed.
3. High capacity for light bulky materials due to larger mixing chamber.

Single rotor continuous mixer advantages:

1. High speed more adaptable to cold molasses application.
2. Smaller unit requiring less installation area.

Both of these machines will perform satisfactorily with dry materials; however, liquids should be heated to recommended teperatures for a ball free product from either machine.

Batch Mixers

Batch ribbon type blenders are sometimes considered too slow for production plants in comparison to

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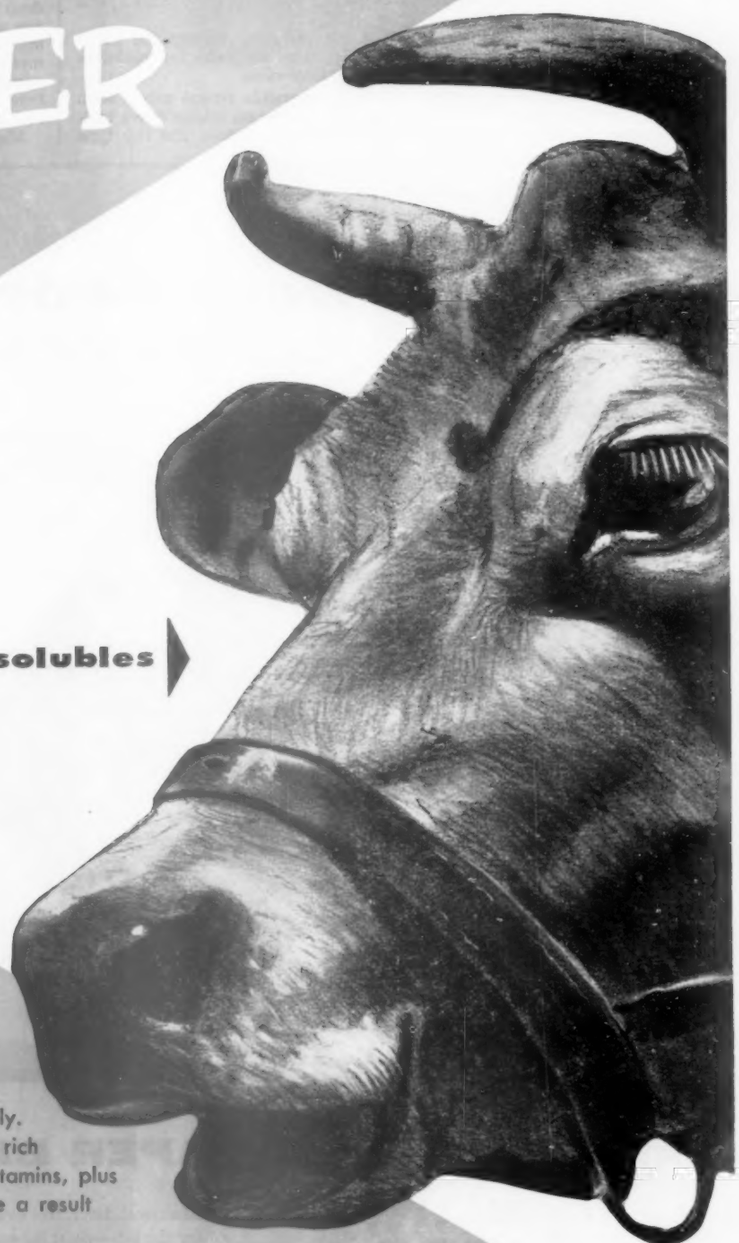

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continuous mixing lines. In reality, ribbon blenders will mix up to one ton per minute or 60 tons of feed per hour. For this production, they must be installed with a hopper scale above the mixer and a surge bin below. Air operated gates in the mixer bottom and the scale bin will permit remote control and also speed up the mixing cycle. The cycle can be 5 to 6 minutes per batch with 3 to 4 minutes for mixing and one minute each to charge and discharge the mixer. This type of installation is directly applicable to an electrical remote control push-button batching plant or a completely automated batching system.

The custom plant uses only batch type blenders for its mixing operations.

The two most popular batch mixers for feed blending are single screw vertical types and horizontal ribbon blenders. We all know vertical mixers are in use in a majority of custom feed plants throughout the country, which is a good testimonial that this machine is satisfactory for many plants.

The single screw vertical mixer has the following advantages over the horizontal ribbon blender:

1. Lower initial cost.
2. Less horsepower.
3. Less floor space compared to floor mounted horizontals.

Horizontal ribbon blenders have the following advantages over the vertical mixer:

1. Much greater hourly tonnage of feed. Capacity per hour is two to three times the equal size of a vertical mixer, due to the short mixing time required.
2. Better mixing efficiency.
3. Short leg horizontal mixers can be ceiling mounted, requiring no floor space.
4. Hopper scale loading and surge bin discharge adaptable for minimum mixing time cycle.
5. A reversible ribbon mixer with two end discharges allows direct bulk delivery of mixed feed. For this type of operation, the mixer is mounted overhead with one end extending through the building over the driveway. The driveway end of the mixer discharges bulk feed direct to the truck, and by reversing the rotation, feed can be sacked inside of the building. This type of installation is becoming very popular in the midwest area.
6. Some custom plants have been mixing up to 10% molasses on feeds satisfactorily in ribbon blenders. This practice is quite hazardous because of the molasses percentage limitations and the multitude of precautions necessary for trouble free operation.
7. Contamination between batches can be completely eliminated with drop bottom doors in the tub which are used for clean out. At least one manufacturer supplies vertical adjustment on the ribbon shaft to maintain minimum clearance between the ribbons and the tub for maximum material discharge.

Most custom plants have separate machines for dry and liquid mixing. The molasses mixers may be single rotor high speed machines or twin rotor slow speed units. These mixers may be complete package units with automatic heating equipment or a mixing chamber and feeder only. A surge bin is mounted above the feeder and a sacker is usually provided at the molasses mixer discharge.

Specific Points

Now let's get down to specific points regarding the mixers we have discussed:

Twin rotor continuous mixers will operate at 300-350 r.p.m. and deliver 1 to 2 tons per hour of feed per h.p. on the drive. For example, a twin rotor mixer with a 20 h.p. motor will deliver from 20 to 40 tons per hour of feed, depending on the application.

Single rotor high speed machines will run up to 1,150 r.p.m., with a few at 1,750, and deliver up to, approximately, 1 ton per hour of feed per h.p. on the drive. As an example, a single rotor mixer with a 20 h.p. drive will deliver 10 to 25 tons per hour of feed, again depending on the application.

It will be noted that capacities are higher through slow speed twin rotor continuous mixers than single rotor machines for equal h.p. This has been found to be due to the higher speed in single rotor equipment. The high speed unit throws the feed in a layer around the inside of the mixer shell and the paddles plow through this layer. In contrast, the twin rotor slow speed mixer has a larger, more open mixing chamber and the feed is thrown in the open area and the plowing of paddles is minimized. Another factor for higher h.p. in the single rotor machine is the fan action, or wind load, created by the high speed paddles.

Both machines require more power for liquid mixing, especially molasses, than for dry blending. It would be unwise to advocate twin rotor slow speed mixers as a cure all for continuous liquid application. As mentioned previously, liquid temperatures are very important in liquid application to feeds for smooth products.

With vertical single screw mixers, we know that 20 minutes or longer is required per batch for mixing. Twin screw vertical mixers should logically mix a batch in 10 minutes. Industry reports indicate the mixing efficiency of vertical mixers is less than that of ribbon blenders. Exact mixing efficiency figures have not been published, to my knowledge. Vertical mixers cannot be easily adapted to bulk delivery or surge bin short cycle operation.

Ribbon type batch blenders provide the best mixing efficiency in the shortest mixing time. Repeated assays have shown that ribbon blenders will

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mix dry ingredients to plus or minus ½% or better, checking for trace ingredients of .05% of the total batch. Three methods of checking mixing time and accuracy have been used. For example, ¾ lb. of coloring added to a 2,400-lb. batch of white powder was completely dispersed in two minutes by visual inspection for uniformity of color. Another method used for checking uniformity of mix is the taking of small samples throughout the batch at different time intervals of mixing. The samples are assayed in the laboratory, checking for variance of a minor ingredient. This type of test has shown mixing variance of less than .02% between samples. The last method used has been the counting of colored granules in samples taken as in the previous test. The variance in the number of colored granules between samples also showed very high mixing efficiency.

Tests have indicated that maximum mixing efficiency usually will be obtained after a two minute mixing period. The recommended mixing time is three to five minutes on most materials. An occasional formulation may require up to eight minutes for complete dispersion. This, however, is a very unusual condition.

Marshall G. Carpenter

SALES MANAGER — Roald Stanchfield, president of the International Machinery Development Corp., Minneapolis, has announced the appointment of Marshall G. Carpenter as general sales manager of the firm. The company is primarily a designer and manufacturer of feed mill equipment. Its newest development, the Pell-O-Matic pellet mill, is an automatically controlled dry process pellet mill. Mr. Carpenter was formerly general sales manager of the process machine division of Superior Separator Co., Hopkins, Minn.

Horsepower

Horsepower varies with the type of mixer and the application. For example, mixing premixes with heavy minerals requires more h.p. than standard 30-to-40-lb.-per-cubic-foot materials. The addition of molasses also requires more power. Heavy duty construction is usually required for mixing materials over 40 lb. per cubic ft. in weight. Horsepower comparisons between vertical and horizontal ribbon blenders are as follows:

Capacity	Vertical	Horizontal
1 Ton	5 H.P.	7½ H.P.
2 Ton	10 H.P.	15 H.P.
3 Ton	15 H.P.	25 H.P.
5 Ton	20 H.P.	40 H.P.

These capacities and horsepowers are based on material of 30 to 40 lb. per cubic foot.

It is quite obvious that all types of mixers have their advantages and disadvantages. The plus factors for each type of mixers should be considered prior to selecting a machine for any operation.

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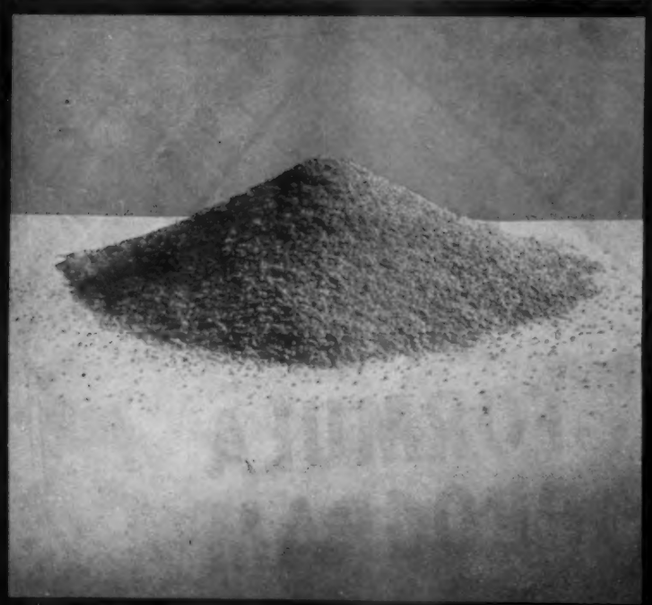

Because of its low fibre content, in combination with high protein, Hi-Energy Soybean Oil Meal is an ideal protein source for new high-energy mixes and special feeding formulas. Precise cooking methods bring the protein content of this soybean oil meal to the desired high level of strength.

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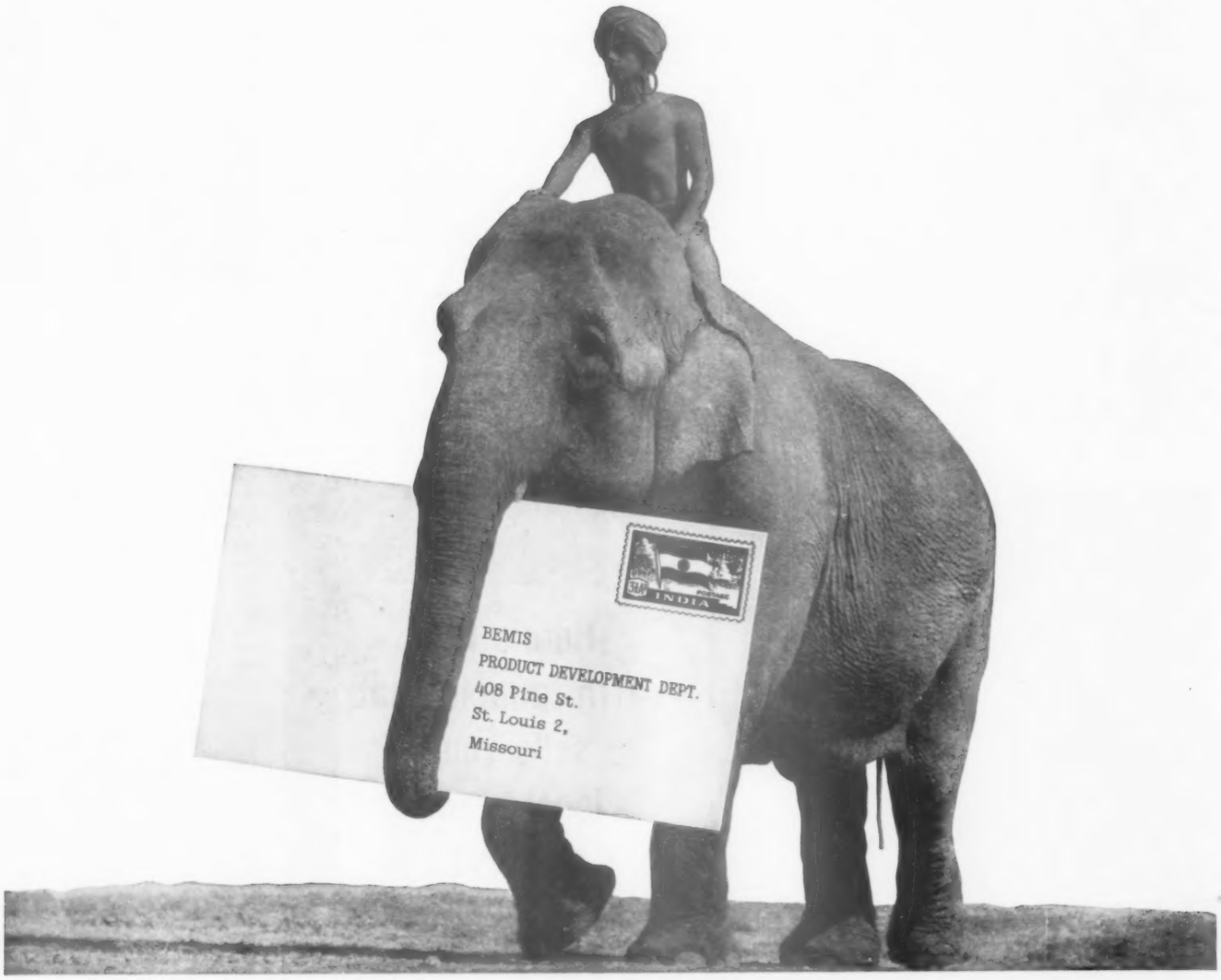

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Economist Predicts Lower Price Level Coming for Cattle

URBANA, ILL. — Cattle numbers are still in the declining phase of their cycle. Beef production will not keep pace with population growth in the next few years. Cattle prices, however, probably cannot be maintained at recent high levels.

These are the observations of L. H. Simerl, University of Illinois agricultural economist, in his recent Illinois Farmers' Outlook Letter. He bases them on circumstances noted in the recent inventory of livestock numbers released by the U.S. Department of Agriculture.

He pointed out that cattle numbers Jan. 1, 1958, were estimated at 94 million head—1% less than a year earlier and 3% less than the record high of two years earlier. The total for Jan. 1 was the smallest for the date since 1952.

Numbers of cattle kept for milk—cows, heifers and replacement calves—were estimated at 33.6 million head—2% below the previous year. The decrease, he said, accounted for most of the decline in total cattle numbers for the year.

Beef cattle numbers Jan. 1 were 60.4 million—about the same as a year before, but 3% less than the record high of two years ago. Compared with the beef herds of two years ago, present herds include 4% fewer cows and 2% fewer heifers, but about the same number of steers and calves.

The 1957 calf crop is estimated at 41 million head, he pointed out. This is 2% less than that of a year before and 6% less than the record high of 1954. The 1958 calf crop may be even smaller, he said, since the number of cows Jan. 1 was slightly smaller than a year before.

While the calf crop declined 6% in three years, human population increased 5%, Prof. Simerl pointed out. This, he said, makes a reduction of 11% in the number of calves in proportion to population. A further decrease will occur this year in the proportion.

While these trends point to less beef per person in the next few years than we had in 1957 and 1956, it may be a mistake to expect cattle prices to hold at the favorable levels of the past several months, Prof. Simerl said.

Strength in the market in recent months has received unusual support from two sources. The first is that supplies of pork have been shrinking, and the second is that marketings of cows and other low-grade slaughter cattle have been unusually small.

Pork supplies declined from about 67 lb. per person in 1955 and 1956 to 62 lb. in 1957, but now farmers have indicated that they intend to increase spring farrowing by 6%, and pork supplies will increase correspondingly during July. Further increases in pork supplies are likely in 1959 and 1960.

Weekly output of beef so far this year has been 7 to 15% less than it was a year before. Outputs of pork, veal, lamb and mutton have been reduced in a similar way.

"This decrease reflects an unusual restriction of livestock marketings," Prof. Simerl said, "since there is no corresponding decline in livestock numbers. As marketings increase to more normal rates during the months ahead, livestock prices will be adjusted accordingly."

St. Regis Sales, Income Near Peak Levels

NEW YORK—The annual report of St. Regis Paper Co. and consolidated subsidiaries for the year ended Dec. 31, 1957, now going forward to stockholders, shows sales at the second highest point in the company's history, and net income also at one of the highest points.

Net sales for last year were $360,965,010, compared with $370,034,372 in 1956, which set the record. Net income for 1957, at $21,125,055, was equal, after preferred dividends, to $2.53 a share of common stock, based on 8,157,835 shares outstanding Dec. 31, 1957. This compared with $25,349,948 equal, after preferred dividends, to $3.04 on 8,153,240 shares outstanding at the end of 1956. For both years shares included stock issued to former stockholders of J. Neils Lumber Co. and St. Paul and Tacoma Lumber Co., which became a part of St. Regis in January and August of 1957, respectively. Financial results for both 1957 and 1956 include twelve months' operations of both Neils and St. Paul and Tacoma.

In the report to stockholders, Roy K. Ferguson, chairman of the board, and William R. Adams, president, state that St. Regis made further moves in its growth program in 1957, rounding out the third phase of its expansion since World War II.

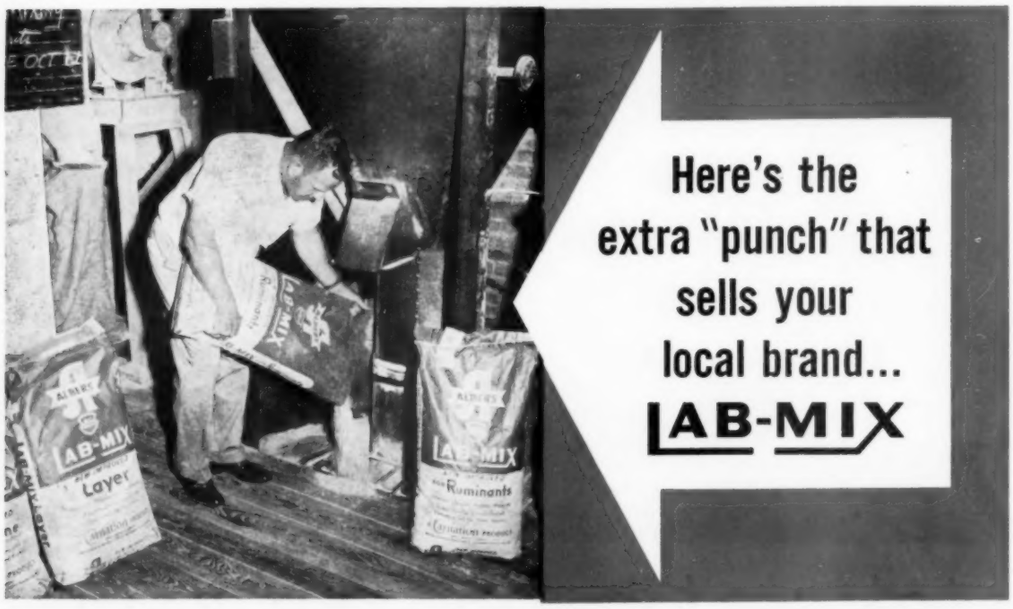
Joseph G. Shedd

JOINS FULTON—Joseph G. Shedd has joined Fulton Bag & Cotton Mills, Atlanta, Ga., as general manager of manufacturing. Prior to joining Fulton Mr. Shedd spent eight years as vice president and general manager of Lane Cotton Mills, New Orleans. His experience includes previous positions as resident manager of Monarch Mills at Union, S.C., and division manager for Dan River Mills, Danville, Va. He has been actively engaged in cotton manufacturing since 1929. In announcing Mr. Shedd's appointment, Clarence E. Elsas, Fulton president, stated that he will be in charge of cotton mill operations, the bleachery, finishing plant, and all warehousing, shipping and engineering. He replaces John F. Greene, now resigned.

Antibiotic in Drums

NEW YORK—Aureomycin Soluble is now available in 25-lb. drum sizes, according to an announcement from B. M. Zillman, veterinary products manager of the farm and home division, American Cyanamid Co.

Mr. Zillman explained that the large container was made available at the request of large users of the product. He said the 25-lb. drum is more economical for such customers. He also said that Aureomycin Soluble has been improved to provide a higher degree of solubility.



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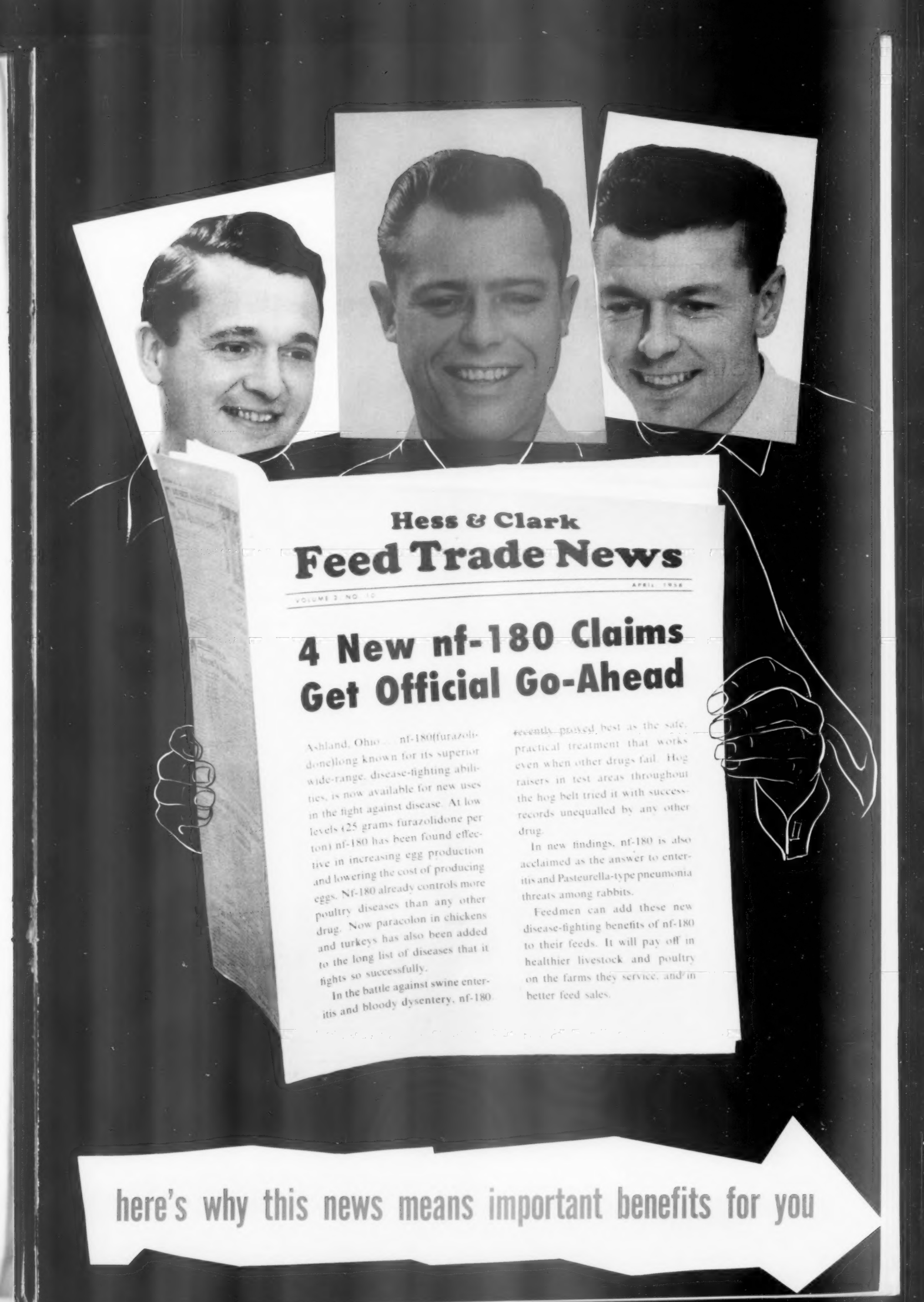
Hess & Clark
Feed Trade News
VOLUME 2 NO. 10
APRIL 1958
4 New nf-180 Claims Get Official Go-Ahead
Ashland, Ohio — nf-180(furazolidone)long known for its superior wide-range, disease-fighting abilities, is now available for new uses in the fight against disease. At low levels (25 grams furazolidone per ton) nf-180 has been found effective in increasing egg production and lowering the cost of producing eggs. Nf-180 already controls more poultry diseases than any other drug. Now paracolon in chickens and turkeys has also been added to the long list of diseases that it fights so successfully.
In the battle against swine enteritis and bloody dysentery, nf-180 recently proved best as the safe, practical treatment that works even when other drugs fail. Hog raisers in test areas throughout the hog belt tried it with success records unequalled by any other drug.
In new findings, nf-180 is also acclaimed as the answer to enteritis and Pasteurella-type pneumonia threats among rabbits.
Feedmen can add these new disease-fighting benefits of nf-180 to their feeds. It will pay off in healthier livestock and poultry on the farms they service, and in better feed sales.
here's why this news means important benefits for you

nf-180® controls more poult

and now proven effective aga

nf-180 (furazolidone) at low levels

- **Increases egg production**
- **Improves feed-egg ratio**
- **Improves livability**
- **Improves hatchability and fertility**
- **Maintains laying under stress**
- **Improves early and late production**

Proof:

Extensive research and field tests prove nf-180, used at a rate to provide 25 grams furazolidone per ton of feed, delivers these results *effectively* and *economically*. In tests at four widely separated research stations, birds under varying management showed an average increase in production of 5.3% and an improvement in feed-egg ratio of 4.5%.

Typical economies of nf-180 low-level feeding at a large feed company showed that test birds returned 51 cents more per bird housed than controls. The test ran over an 8½ month period (255 days) and produced 113 extra dozens of eggs good for $42.94. An additional income of $6.12 came from more large and extra large eggs.

These same birds used ½ lb. less feed than controls to produce a dozen eggs . . . jumping income another $22.28. An extra 8 hens due to increased livability over controls boosted income $6.00 more.

The total $77.34 *extra* income from a medication cost of only $10.81. Extra net profit was $66.53 or *51 cents per bird housed.*

Another feeding experiment in the east under highly sanitary conditions showed that the egg production of caged New Hampshires fed for 48 weeks was improved about 8.6 percent. In southwestern tests, the improvement ranged up to 11.6 percent.

Results from a test in the midwestern university also show a reduction in mortality from 33 percent to 6.7 percent.

Tests in the southwest showed an increase in the hatching percentage of 4.6 percent. At an eastern commercial laboratory 32 weeks of testing increased hatchability from 79 to 82 percent.

Test comparisons demonstrate the positive effect of low-level nf-180 (25 grams furazolidone per ton of feed) in maintaining greater overall performance of birds under disease or nutrition stress.

In summarizing the work with low-level nf-180 a researcher states, "The benefits from the low-level use of nf-180 are probably due to the control of subclinical infections. Several of the experiments described were run in small experimental flocks where sanitation, isolation and management were all superior compared to the average large commercial flock, which cannot always practice management or sanitation as thoroughly as is commonly done in experimental flocks. Consequently, the commercial flock suffers more severely from subclinical disease burdens. Therefore, benefits from using low-level nf-180 (25 grams furazolidone) under commercial conditions may easily exceed those reported in these experiments."

ry diseases than any other drug
inst swine and rabbit diseases

Necrotic enteritis and bloody dysentery controlled with nf-180

Proof:

Nf-180 (furazolidone) has successfully proven itself against the two most severe forms of swine enteritis, necrotic enteritis (Necro) due to *Salmonella choleraesuis* and vibrionic (bloody) dysentery. The recommended nf-180 treatment level is 300 grams furazolidone (0.033%) per ton of total ration for 10 to 14 days following the first symptoms.

In a field test in Illinois, 70 head, 7 months of age, were gaunt, had loose, bloody scours, rough hair coats and were on and off feed constantly. Diagnosis indicated lesions of necrotic enteritis, pneumonia and evidence of rhinitis.

The animals were put on a complete commercial ration with nf-180 for 16 days. Within that time, stools tightened, coats smoothed out, appetites and water consumption increased, and bloody scours stopped. No more disease was evident to market time.

Results of tests such as this and many other feeding trials prove that nf-180 is a safe, practical way for hog producers to control enteritis even when all other commonly used treatments have failed.

nf-180 effective against two important diseases of rabbits

Improves weaning percentage and weights

Proof:

In new research findings the continuous feeding of nf-180 in rabbit feeds increased weaning percentage by 5.8%, reduced the number of enteritis deaths by 50%, reduced Pasteurella-type pneumonia deaths by 43%. At the same time nf-180 increased average weight per rabbit by .25 pounds and reduced the number of pneumonia deaths among mature does.

Based on these and other tests, the recommended nf-180 feeding program for prevention of diarrheal enteritis and Pasteurella-type pneumonia is 50 grams furazolidone per ton of complete ration fed continuously.

nf-180 prevents and treats paracolon disease

Proof:

Research shows that nf-180 is effective in preventing and treating paracolon infections in chickens and turkeys. Tests at a midwestern university showed that nf-180 feeding at the 100 grams-furazolidone level or higher per ton of complete feed reduced mortality 50% or more when given at the time the poults were exposed to paracolon diseases. Field studies in California and Texas back up the midwestern work.

Nf-180 feeding recommendations are: 100 grams furazolidone per ton of complete ration for prevention of paracolon; 150 grams furazolidone per ton for effective treatment of acute outbreaks; and 200 grams furazolidone per ton if the flock is off feed or the disease is exceptionally severe.

Here's how to use nf-180 . . .
today's most effective feed medication

Per Ton Level	Grams Furazolidone †	Feeds	Uses and Benefits
2.4 to 3.2 oz. nf-180	7.5-10.0 (.0008 to .0011%)	Chick Starter and Grower Broiler Feed Turkey Starter	Stimulates growth Improves feed conversion
½ lb. nf-180	25 (.00275%)	Laying Feeds Breeder Feeds	Increases production Reduces mortality Reduces stress Improves feed-egg ratio Increases hatchability and fertility Improves early and late production
1 lb. nf-180	50 (.0055%)	Broiler Finisher	Reduces runts, rejects, downgrades Improves feed conversion Reduces mortality Prevents many diseases*
		Turkey Grower	Improves feed conversion Reduces mortality Reduces stress Prevents many diseases*
		Turkey Breeder	Improves feed conversion Increases hatchability Increases production Reduces stress Cuts mortality Prevents many diseases*
		Rabbit Feed	Reduces mortality in young and old Prevents diarrheal enteritis and Pasteurella type pneumonia Improves feed conversion and growth rate Improves weaning weights
2 lbs. nf-180	100 (.011%)	Booster Feed	Week-a-Month protective Feeding for layers Prevents and treats more poultry diseases** than any other drug in broilers, replacement birds, layers, breeders, and turkeys of all ages
		Turkey Breeder Conditioner	Prevents and treats more diseases** than any other drug
		Broiler and Turkey Starters	Improves feed conversion Reduces early mortality Stimulates growth Prevents and controls more diseases than any other drug**
3 lbs. nf-180	150 (.0165%)	Special Booster	Treats outbreaks of blackhead
4 lbs. nf-180	200 (.022%)	Turkey Booster	Treats paracolon and severe cases of paratyphoid, synovitis and blackhead
6 lbs. nf-180	300 (.033%)	Custom-Mixed Swine Feed	Treats necrotic enteritis (Necro or black scours) and bloody dysentery

* 1 lb. per ton *prevents* pullorum, coccidiosis in chickens, CRD, typhoid, paratyphoid, blue comb, ulcerative enteritis (quail disease), synovitis, stresses.

** 2 lb. per ton *prevents* hexamitiasis, blackhead, paracolon and coccidiosis in chickens; *treats* pullorum, typhoid, paratyphoid, hexamitiasis, reduces stress effects and reduces mortality in the presence of CRD, blue comb, synovitis and quail disease.

† Furazolidone is available to feed dealers in registered, branded feeds, or as nf-180 Custom-Mix TEN for local mixing.

Complete details and data on nf-180's broad uses are available from your Hess & Clark representative. Or, write, phone, wire: Feed Products Division, Ashland, Ohio.

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Raleigh B. Wilson

TO JOIN CONTINENTAL — Continental Grain Co., St. Louis, has announced that Raleigh B. Wilson will join Continental at St. Louis as a member of the grain merchandising department April 1. Mr. Wilson is leaving the Checkerboard Grain Co., St. Louis, a subsidiary of Ralston Purina Co. He has been associated with the Purina firm since 1939. A native of the St. Louis area, Mr. Wilson attended Washington University at St. Louis.

Range Condition Continues Good

FARGO, N.D.—Range feed conditions in the 17 western Range states are equal to or better than any year since 1942, according to a report this week from the U.S. Department of Agriculture office in Fargo.

In addition to the good range condition, almost uniformly adequate moisture supplies give promise of abundant early spring growth.

Along the Pacific Coast, mild temperatures and generous rains have favored development of spring forage. The season is several weeks ahead of schedule. Grazing conditions in the coastal states of Washington, Oregon and California are generally the best since the mid-1930's.

Early grass has been delayed by cool, damp weather in Texas and feed supplies are becoming short in some southeast areas of the state.

In the central and southern plains sorghum stubble and wheat pastures have provided ample storage for livestock. Mud and soft fields have restricted grazing, but, generally, available feed has exceeded requirements of the livestock. Moisture conditions are favorable over all the plains area.

The mild weather during February along with abundant range and harvested feed supplies also helped to keep cattle in good condition. Their condition March 1 was rated the best since 1942. Early calving is reported well under way in all sections, and the percentage saved is reported as above average, with light loses even in the areas hit by recent blizzards.

Sheep and lambs are reported in the best condition for March 1 since 1945. Mild temperatures favored winter lambing in the Northwest, and early development of feed in Washington and Oregon is providing a heavy milk flow. New crop lambs in California, Arizona and Texas are also making good growth, and a larger than usual percentage is expected to move directly to slaughter.

HONORED FOR SAFETY

BOZEMAN, MONT. — The Bozeman feed plant of the Montana Flour Mills Co. won the annual safety award for the firm for the year 1957. The plant operated the entire year without a lost-time accident. Checks were awarded to each of the employees.

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UP OR DOWN?

By Leonard W. Schruben
Agricultural Economist, Kansas State College

More on Dollar Wheat

A keen interest in the prospect for dollar wheat in 1958 is indicated by correspondence and comments of readers of this column. You may recall that such a possibility was indicated in the Jan. 18 issue of Feedstuffs. It would be most appropriate to review the situation at this time.

Dollar wheat doesn't sound very good, does it? What are the chances at this time that wheat will change hands for a dollar per bushel this summer? What are the signs to look for?

Let us review briefly the statement made in this space in January. Note carefully the conditions which were believed to be necessary at the time that report was written. We will finish this report with a review of conditions which now enter the picture.

In January, two conditions were spelled out as requirements for dollar wheat. One was that the air would be damp, making drying during harvest difficult—in short, a "wet harvest" with its downward pressure on price. The second condition was that a large harvest would be realized.

Wet Weather a Hazard

No one can tell at this time what the weather will be like at harvest, and it's probably a good thing. This factor still remains a threat to the wheat price structure this summer. Of course, it is something many farmers are prepared to cope with. But many are not, and this will contribute to downward market pressure if wet weather prevails over a substantial area during harvest.

There has been some increase in farm grain dryers in areas where wet grain sorghum was a problem. This may provide some relief from spoilage. However, grain buyers must be alert to damage to wheat by high temperatures. Unless temperatures are kept under control, the solution of one problem could be the cause of an even more serious one.

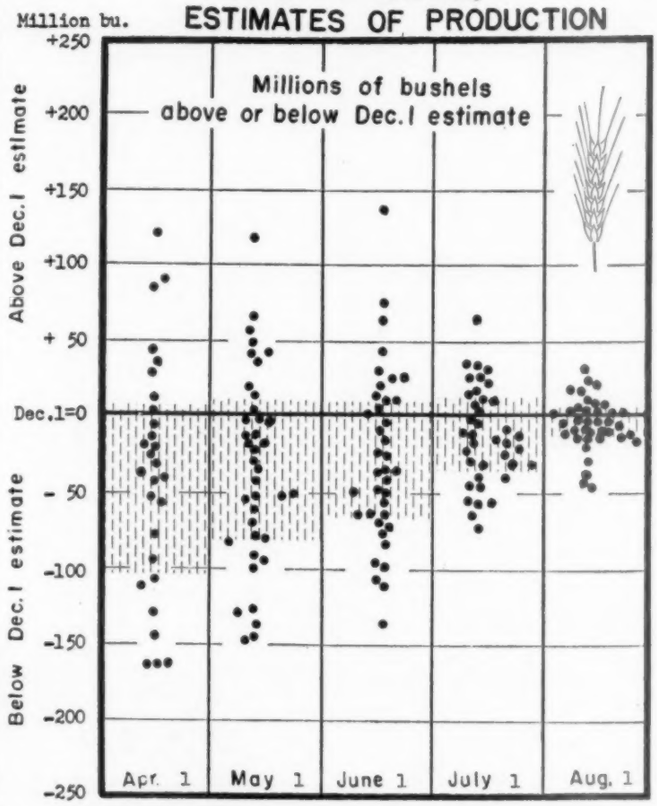
Crop Prospects Favorable

We will have a better indication as to the outturn of the 1958 wheat crop on April 10. On that date the Crop Reporting Board will release its forecast of winter wheat production as of April 1. Of course, many things can happen to a wheat crop after April 1, but this report will be a good indicator of wheat production.

Changes in winter wheat from April 1 to harvest are shown in Exhibit 1 along with monthly estimates through the growing season. This exhibit shows the relation between April 1 estimated production of winter wheat and the post-harvest Dec. 1 estimate for the same crop.

Here is how to read Exhibit 1: Each dot represents one year. Its location shows the difference in estimated bushels from April to Dec. 1 with December shown on the solid line. A dot at the +50 level means April 1 estimate was 50 million bushels above the December estimate. This can give you an idea how crop prospects have changed within each growing season. The middle half of

EXHIBIT 1. Winter wheat: Estimates of production, U.S., 1920-57.



Each dot represents one year.

Half of the dots are in the shaded area.

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EXHIBIT 2. Winter Wheat—Allotment, Soil Bank, and Plantings in Selected States for 1958.

(In 1,000 acres)

State—	Allotment	Soil bank*	Net allotment	Acres seeded	Over-planted
Missouri	1,274	251	1,023	1,745	+ 722
Kansas	10,638	705	9,933	10,942	+1,009
Nebraska	3,228	128	3,100	3,547	+ 447
Colorado	2,705	317	2,388	2,910	+ 522
Wyoming	292	21	271	289	+ 18
Oklahoma	4,860	679	4,181	4,490	+ 309
Texas	4,164	606	3,558	3,538	— 20
New Mexico	474	121	353	312	— 41
Total of above	27,635	2,828	24,807	27,773	+2,966

*As of Oct. 25, 1957.

the dots are shown in the shaded area.

As plainly shown by Exhibit 1, crop prospects have improved more often than not after the April 1 estimate was made.

Overplanting Increased

In the January column, mention was made of wheat which will not be eligible for price support because of overplanting of allotments. How many farmers overplanted? Will they come within the program by destroying the excess acreage? We do not have answers to these specific questions, but the comparisons, state by state, shown in Exhibit 2, indicate the size of the problem.

None of the wheat grown on farms in excess of allotments is eligible for price supports. Substantial discounts were suffered by grain sorghum growers last fall, and every bushel was potentially eligible for price support. Wet grain, shortage of storage and the large crop helped in depressing the price.

Suppose these conditions prevail for wheat this year and much of it is not eligible for price support. It is unreasonable to expect depressed prices for a very long period even if the worst happens. Also, prices are not likely to go as low as a dollar per bushel. However, it could happen.

Actually, a range in price of $1.25-$1.40 is the more likely prospect. A considerable expansion of storage facilities is reported, especially of commercial facilities. This can offer some relief from downward pressure.

In summary, wheat prices in Kansas are likely to fall to $1.40 or lower per bushel if normal harvest weather prevails and planned storage is completed by harvest. It is assumed no change will occur in the price support program. Given unfavorable harvest weather, a good yield per acre and a shortage of storage space, wheat could be traded at a dollar a bushel for a brief period.

N.Y. Firm's Corn Milling Building Burns

JAMESTOWN, N. Y.—The five-story corn milling building of the Grandin Milling Co. was virtually destroyed by fire recently.

The company also distributes feed in New York, New England and the near South.

The fire was reported at 5:07 a.m. by the ringing of the sprinkler system alarm bells.

Daniel G. Grandin, company vice president, and the fire chief said the fire probably started spontaneously in a rubbish pile and then spread up through grain chutes where the sprinkler system was unable to reach.

Mr. Grandin said the corn operation could be transferred to another building. The building was insured. He said the top three stories of the building would have to be torn down.

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★ Screens are changed instantly, *while the mill is running*, without exposure to whirling hammers.

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Prizes Total $18,000 For 1958 Cotton Bag Sewing Contest

MEMPHIS—Women from 35 states are expected to compete for $18,000 in prizes to be awarded in the 1958 Cotton Bag Sewing Contest, the highest total of awards ever offered in the six-year-old contest.

Cash prizes totaling $100 will be awarded at each of 51 state and regional fairs. Other prizes include a Singer sewing machine, an expense-paid vacation in New York City and a share of $4,500 worth of household appliances and other gifts to the three top national winners.

Articles sewn by finalists will be judged in Memphis Nov. 10. The contest is sponsored annually by the National Cotton Council and the Textile Bag Manufacturers Assn.

Entry classifications, planned so that contestants may use several sizes of bags, include a kitchen apron and two potholders, man's or boy's sport shirt, "brunch" or lounge coat, luncheon set, stuffed toy, crib quilt, and mother-daughter dresses. All items must be made from cotton bags, with the exception of minor trimmings.

Further information may be obtained from the National Cotton Council, P.O. Box 9905, Memphis 12, Tenn.

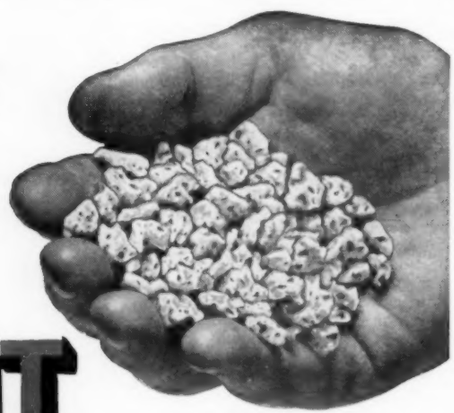
Pernell T. Reitan

FINANCE DIRECTOR — Pernell T. Reitan has been named finance director of Peavey Feed Mills, Minneapolis, it was announced by F. T. Heffelfinger II, general manager of the firm. Mr. Reitan previously was assistant vice president of the Northwestern Mortgage Co., Minneapolis, a subsidiary of the Northwestern National Bank. As finance director for Peavey, Mr. Reitan will be in charge of dealer capital and animal production financing, and will survey feed financing situations, spending much of his time with dealers and feeders in the field. He is a graduate of North Dakota Agricultural College, where he also took graduate work in agricultural economics.

FEED MILL SOLD

FERTILE, IOWA — The Dungan brothers, Lawler, Iowa, have purchased the Old Red Mill here. The mill will be joined with others owned at Lawler and Protivin by the Dungans as part of their Farmers Certified Mills.

You Sell The Best When You Sell



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GRAN-I-GRIT research and results obtained by poultry raisers prove that the larger sizes of GRAN-I-GRIT not only grind feed more efficiently but also keep the digestive tract open for full feed utilization by grinding up feathers and fibrous litter that all poultry eat.

Small grit passing through the digestive tract, rather than staying in and working in the gizzard, takes space needed for feed.

Full Details on Gran-I-Grit's New Feeding Program

There is a new GRAN-I-GRIT circular that explains in detail this new GRAN-I-GRIT feeding method that makes more money for broiler growers and egg producers. You, as a poultry grit dealer or jobber, should write for a free copy today.

Sharper Grinding Edges Release More Nutrients From Your Feed

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Those EXTRA valuable body building nutrients that GRAN-I-GRIT gives you by finer grinding of your feed are a great aid in speeding growth, body development and weight gains of broilers, and in getting more eggs for each pound of feed consumed. GRAN-I-GRIT will not dissolve and does not change the mineral balance of your feed.

GRAN-I-GRIT is packed in 10 lb. and King Size (App. 22 lbs.) Feeder Packs and 25, 50 and 80 lb. bags.

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GRAN-I-GRIT Has *Eye Appeal* for Poultry of All Ages

Poultry must consume the proper amount of grit to get maximum results from feed and GRIT MUST HAVE EYE APPEAL before poultry will eat it.

Side by side tests have proven that chickens and turkeys of all ages prefer a light gray grit with black specks . . . THE GRAN-I-GRIT TYPE . . . as much as 10, 15 and even 100 to one over grit of other colors.

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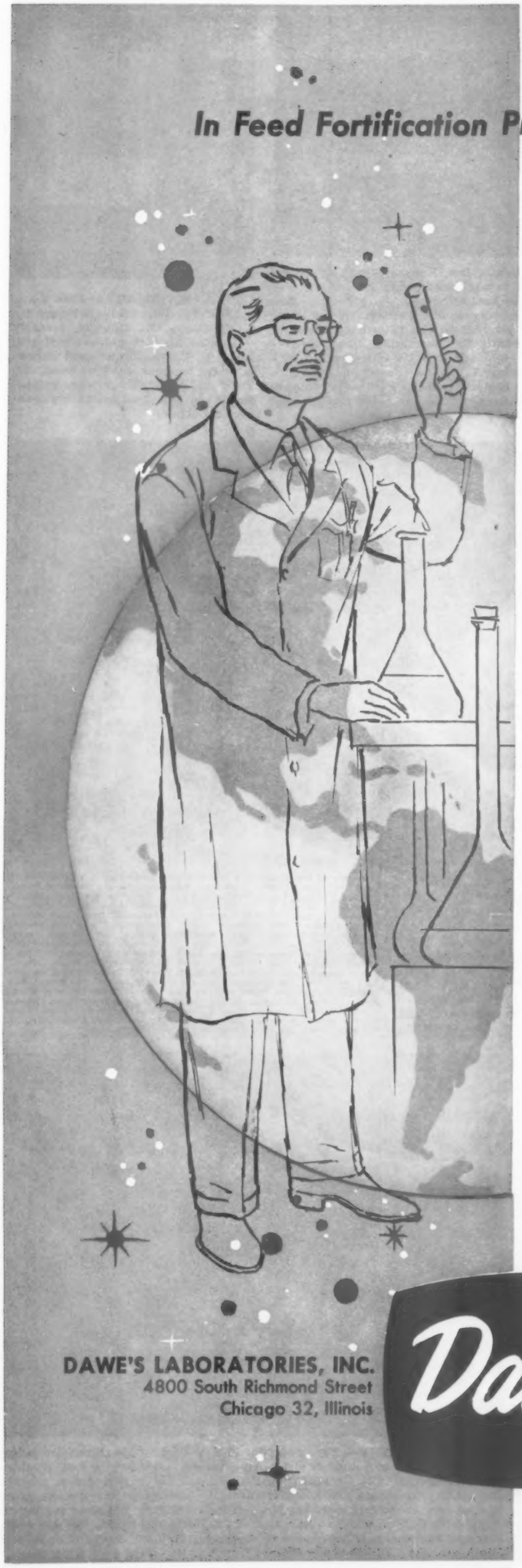

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Around the world, on six continents, feed men recognize the dependability of Dawe's fortification products and services. They'll tell you Dawe's superior quality and fast, personalized service do make a difference.

Dawe's, a career company with over thirty years' specialization in vitamins and other feed additives, has a product and service program to meet your every requirement. Qualified specialists are available to assist you in developing a program to meet your specific needs.

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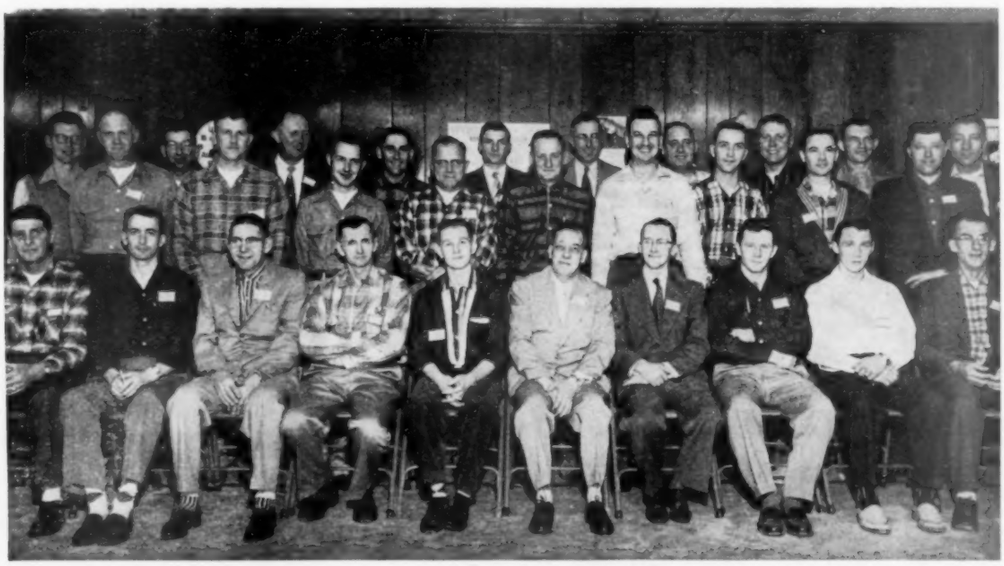
SPEAKERS—Members of the Midwest Feed Manufacturers Assn. at the organization's convention heard a report on the association's program for the future from the speakers pictured at the left. Pictured, left to right, are: Seated—Dr. Leslie Johnson, Iowa State College; Dr. John Adams, University of Nebraska, and Dr. Rollin Thayer, Oklahoma State University; standing—Collier Wenderoth, Jr., O.K. Feed Mills, Inc., Ft. Smith, Ark., past president of the Midwest; Wiley Akins, Peter Hand Foundation, Chicago; Eric Carlson, Ralston Purina Co.; Dr. John Aiken, veterinarian of South Sioux City, Neb., and Owen Smith, Cargill, Inc., Kansas City. The college men discussed joint management programs and the Nebraska conference for feed salesmen; Mr. Akins reported on formula feed conferences; Mr. Carlson, the Midwest Production School; Dr. Aiken, the veterinary relations program, and Mr. Smith, the association's traffic activities. Shown at the right are some of the speakers who discussed feed financing: L. F. Van Stone, Uncle Johnny Mills, Houston; Dee Elmore, Ralston Purina Co., Kansas City; Dave Ross, Nutrena Mills, Inc., Minneapolis, and A. M. Stevens, Ralston Purina Co., St. Louis.

35TH ANNIVERSARY — John Zima, industrial products sales manager for Kraft Foods Co., Chicago, recently celebrated his 35th anniversary with the firm. Shown at a banquet in honor of the occasion are Mrs. Zima, Mr. Zima and Robert Lochridge, institutional and industrial marketing manager for Kraft.

Camera Views of the News



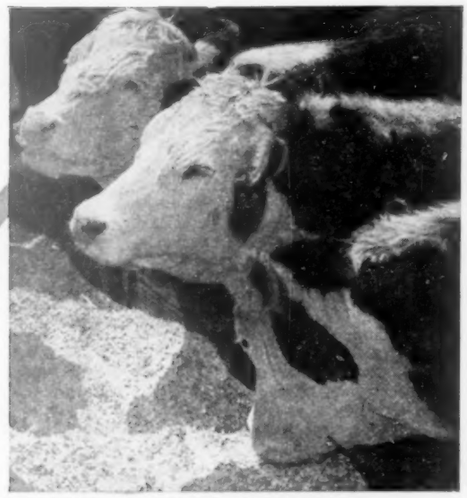
FEED SCHOOL—Twenty-nine feed dealers, employees and salesmen from three states attended a school on feeding and management of poultry and livestock held at the research farm of the Hubbard Milling Co., Mankato, Minn., recently. The school was one of a series the company has held the past several years. The program is directed by Vern Lundin, director of advertising and public relations. He is assisted by George Patrias, director of research and nutrition; Don Madden, Mankato division sales manager; Carl Todtleben, assistant in research and nutrition, and Barney Schorer, assistant sales manager.

Members of the class were (front row, left to right) Walter Schall, Guckeen, Minn.; Jerry Danielson, Lewiston, Minn.; Glendon Baum, Elmore, Minn.; Steve Weisman, Kimball, Minn.; Robert Hager, Lanesboro, Minn.; A. D. Otterson, Mankato, Minn.; E. D. Helland, Clear Lake, S.D.; Gordon VandeWeerd, Preston, Minn.; Bill Brown, Easton, Minn., and Herbert Auch, Harrold, S.D. In the second row are (left to right) Darie McKowan, Miller, S.D.; Roland Norby, Appleton, Minn.; Louis Waurzyniak, Lester Prairie, Minn.; Richard Peterson, Hutchinson, Minn.; Lawrence Meurer, Amboy, Minn.; Sidney Erstad, Ada, Minn.; Robert Engesether, Mankato, Minn.; Gene Venner, Onida, S.D.; Willard Bode, Nicollet, Minn. In the back row are (left to right) George Townley, Medford, Minn.; Ray Hagen, Hutchinson, Minn.; M. R. Van Cleave, West Liberty, Iowa; LeRoy Odem, Mankato, Minn.; Donald Lhotka, Watertown, Minn.; LeRoy Adams, Cedar Rapids, Iowa; Earl Schroeder, New Ulm, Minn.; Harold Sampson, Round Lake, Minn.; Walter Cassel, Jr., St. Charles, Minn.; and Clarence Mann, Gettysburg, S.D.

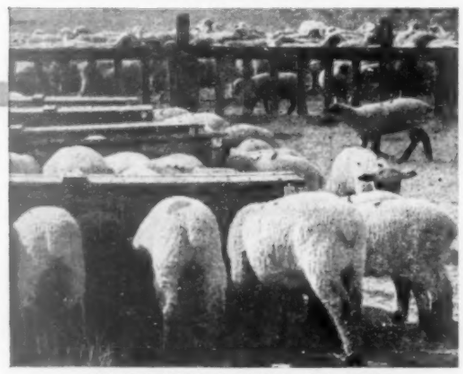
RESEARCH BUILDING—A new poultry research building has recently been completed by Lindsey-Robinson & Co., Inc., Roanoke, Va., manufacturer of Fair-Acre Feed. The building—a portion of the interior is shown—has 2,400 sq. ft. and is divided into 24 pens, each of a 50-bird capacity. All pens are equipped with hot water brooding units and have automatic waterers. Thermostats maintain the proper temperature. All partitions and equipment can be raised to the ceiling to facilitate cleaning. It is of cinder block construction and has concrete floors. An insulated, polished aluminum roof is for preventing extremes in temperature and ventilation is provided by exhaust fans. The house will be used for experiments designed to check the results of battery tests and to originate research with unidentified growth factors, antibiotics, arsenicals and certain other ingredients.

CORNISH POULTRY — Purebred New Jersey Cornish bloodlines are being bred into poultry in a number of foreign countries, according to Earl W. Garrison, Bridgeton, N.J., Cornish specialist. He said the native strains provide adaptability to climate and environment while Cornish strains provide qualities modern consumers demand. Mr. Garrison (center) is shown sending a shipping of Cornish males to Iraq, one of six orders received in one day from overseas customers. Others went to Germany, Holland, Italy, Canada and South America. Also shown is Warren Garrison (left) and Mrs. Ruth Clark.

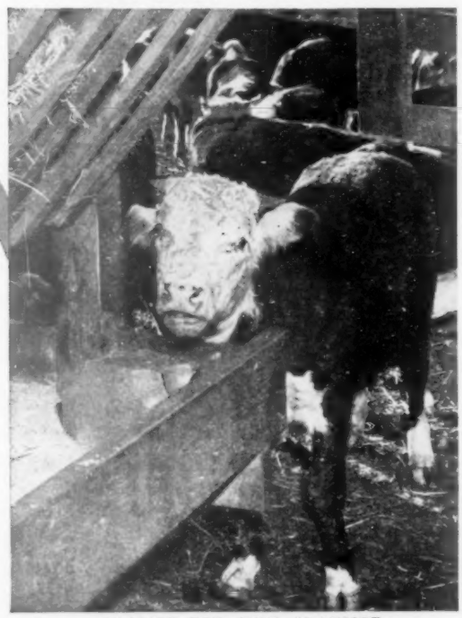
WAYS YOU CAN USE 'STILBOSOL' TO OPEN SELF-FEEDING MARKET



CATTLE ON FEED



SHEEP AND LAMBS ON FEED



CALVES FED FOR MARKET

Self-fed market cattle, sheep, lambs and calves may now be given growth-boosting, cost-cutting benefits of 'Stilbosol'-fortified supplements.

The market for feeds with 'Stilbosol' has been widened by two recent developments. First, feeds containing 0.4 mgs. of diethylstilbestrol per pound can be kept before market cattle and sheep at all times. Second, feeds containing levels of 1.0 mgs. to 1.5 mgs. of diethylstilbestrol per pound may now be self-fed to calves.

New recommendations broaden sales opportunities. With these new recommendations you can offer your cattle and sheep feeding customers and prospects free-access feeds which contain only 0.4 mgs. of diethylstilbestrol per pound. Based on an average daily consumption of 25 pounds per beef animal and 5 pounds per sheep, this gives the recommended daily levels of 10 mgs. for cattle and 2 mgs. for sheep.

The sliding scale of 1.0 mgs. to 1.5 mgs. of diethylstilbestrol per pound in calf feeds allows you to provide your customers with feeds which vary according to the calf's changing needs as it grows.

The following table brings up to date all the mixing and feeding recommendations for 'Stilbosol'-fortified supplements. The amount of diethylstilbestrol per animal per day should not exceed 10 milligrams for market cattle, or 2 milligrams for sheep.

Free assay service continues. As in the past, Eli Lilly and Company will provide free assay service for all feeds containing 'Stilbosol.' The procedure for submitting your feed samples remains unchanged.

Lbs. feed per 10 lbs. 'Stilbosol'	% Diethylstilbestrol	Milligrams per lb.	Feeding rate lbs. per animal per day	
			Beef	Sheep
25,000	0.00009	0.4 (for self-feeding)	—	—
20,000	0.00011	0.5	20	4.0
12,500	0.00018	0.8	12.5	2.5
10,000*	0.00022	1.0	10	2.0
6,700*	0.00033	1.5	6.7	1.3
5,000	0.00044	2.0	5	1.0
2,000†	0.0011	5.0	2	—
1,500†	0.0015	6.7	1.5	—
1,000†	0.0022	10.0	1	—

*Calf feeds recommended in these concentrations.

†Not to be used for sheep.

Discontinue feeding mixed feed containing 'Stilbosol' 48 hours before slaughter.

Stilbosol

(Diethylstilbestrol Premix, Lilly)

Lilly

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ELI LILLY AND COMPANY, AGRICULTURAL AND INDUSTRIAL PRODUCTS DIVISION, INDIANAPOLIS 6, INDIANA

Record Amounts of Barley, Sorghums, Beans Supported

WASHINGTON—Record quantities of barley, soybeans and grain sorghums were put under government price-support loans and purchase agreements through Feb. 15, the U.S. Department of Agriculture reported this week.

The totals were 140.8 million bushels of barley, 89.7 million bushels of soybeans and 140.2 million cwt. of grain sorghums from 1957 crops.

Jan. 31 was the last day for putting 1957-crop wheat, oats, barley, rye, soybeans, dry beans, flaxseed and rice under support. Grain sorghums from the 1957 crop could be put under through Feb. 28 and 1957 corn may be put under support until May 31.

The quantity of 1957-crop corn put under support continues lower than a year ago. The 100,837,649 bu. of 1957 corn put under support from Jan. 15 to Feb. 15 totaled about the same as during the Jan. 15 to Feb. 15, 1957, period.

Through Feb. 15, 1958, a total of 181,390,923 bu. of 1957-crop corn had been put under support, compared to 312,959,258 bu. of 1956 corn put under through Feb. 15, 1957.

Of the 181 million bushel total of 1957 corn under support, 10,826,619 bu. were warehouse-stored, 161,400,188 bu. farm-stored and 9,164,116 bu. were under purchase agreements.

Non-Compliance Corn

Through Feb. 15, approximately 37% of the 1957-crop corn put under support was from farms not in compliance with acreage allotments. Non-compliance corn put under support through Feb. 15 amounted to 8.6 million bushels in Illinois, 3 million bushels in Indiana, 33.5 million bushels in Iowa, 5.8 million bushels in Minnesota, 2.2 million bushels in Missouri, 7.3 million bushels in Nebraska, 1.1 million bushels in Ohio, 3.8 million bushels in South Dakota, with other states bringing the total to 67.4 million bushels. Last year, about one fifth of the total put under support was "non-compliance" corn.

The total amount of 1957-crop wheat put under support before the Jan. 31 deadline was 254,906,207 bu. This is compared to 250,873,888 bu. of 1956-crop wheat put under support through Feb. 15, 1957.

Nine Companies Receive Small Loans

WASHINGTON—Nine small business enterprises connected with the feed and grain industry were among those receiving loans during the month of January from the Small Business Administration.

The nine loans were among 34 approved for firms closely related to agriculture and 289 loans in total. The 289 loans were for a total of $13,820,000, compared with 261 loans for $11,801,000 for the month of January, 1957.

Largest of the loans in the grain and feed category was one for $200,000 to Spikes, Inc., grain elevator firm in Hugoton, Kansas. One other grain elevator firm, Rardin Grain Co., Kansas, Ill., had a loan of $125,000 approved for grain elevators and a feed store.

Other firms receiving loans included the following: Madisonville (Tenn.) Feed & Supply, $35,000; Schultz Coal & Feed Yard, Huron, S.D., $11,400; Harveyville (Kansas) Grain & Seed Co., Inc., $40,000; Alexander Feed & Supply, Pleasant Hill, Mo., $12,000; Robert Lee Davis Feed Mill, Noville, Iowa, $5,500; Tribune (Kansas) Grain, Inc., $20,000; Ned and Mabel Ray, Verdon, Neb., alfalfa dehydrating firm, $12,000.

Loans to the nine firms total $460,900.

Milton Hendrixson

NEW JOB — Milton Hendrixson has joined Browning Turkey Farms, Winchester, Ky., to work in the feeding, growing and processing operations of the firm. Mr. Hendrixson was formerly with the Provico Feeds division of the Botkins (Ohio) Grain & Feed Co., as sales manager. During his career in the feed industry he helped pioneer the use of animal fats in poultry and animal feeds.

"LESS DUST"

Quality control at Spencer Kellogg Oil Seed Meal plants covers the physical characteristics of meals to exclude the fine dust (smaller than 80 mesh). The "fines" are separated from the coarser meal. This improvement is accomplished by using the most modern machinery and keeping it up to the highest standards of performance in the plant by constant inspection and careful supervision. It is very much worth while. It prevents waste in your plant and makes your processing easier and better. It helps you produce formula feeds in which the protein supplement is distributed properly.

Compare Spencer Kellogg cars for both physical and nutritional quality. Your unloaders will tell you a Spencer Kellogg car is a "good" car, either sacked or bulk.

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BUFFALO 5, N. Y.

Spencer Kellogg Mills are located at: Edgewater, N. J. • Bellevue, Ohio • Chicago, Ill. Decatur, Ill. • Minneapolis, Minn. • Des Moines, Iowa • El Centro, Cal. • Long Beach, Cal.

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TRANSPORT MIXING WAGON

Saves TIME and MONEY on Hauling, Mixing, Elevating, and Unloading!

Quickly and easily attached to any tractor

This highly efficient wagon, feed mixer and elevator combination gives you ALL the time, money and work saving advantages of bulk grain handling. At harvest time, unload grain directly from combine into mixing wagon, then transfer automatically into elevator. Ideal for filling self-feeders and storage bins . . . cuts feeding time, eliminates costly trips to mill or elevator.

Telescoping PTO shaft with quick attaching universal joint and guard. Horizontal and vertical augers handle all feeds. V-type bin has two compartments, feeds flow freely to bottom. Sturdily constructed. Heavy-duty 3" channel steel frame, 14 ga. steel mixer hopper, 15x5 wheels with Timken bearings. Three sizes: 70, 110, and 150 bushels.

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GUNTERSVILLE, ALA.

MERRY MIXER

Dehy Alfalfa GREENULES

Both New Consolidated Blenders' Plants Building on Schedule!

We're reaching for the moon, too!

Structures of both new Consolidated Blenders' storage and processing plants are skyborne, making bright new landmarks for the dehydrated alfalfa industry at Guntersville, Ala., and Nebraska City, Nebr.

Ribbon-cutting day at both installations is May 1.

Meanwhile, if you're reaching for the moon on your feed sales chart, supplement your feed with vitamin-rich Merry-Mixer dehydrated alfalfa greenules. They're dust-free, more uniform, easier to mix and have better dispersion qualities than any other meal you've ever seen.

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New Products
New Services
New Literature

This reader service department announces the development of new and improved products, new services and new literature offered by manufacturers and suppliers. Claims made in this department are those of the firm concerned. Use the accompanying coupon to obtain the desired information.

No. 5996—Self Feeder for Hogs

A new "bulk bin" type of self feeder for hogs has been announced by the James Mfg. Co. The basic feeder holds 60 bu. and may be enlarged to 80- or 100-bu. capacity by adding one or two 20-bu. sections. It has 16 feed openings. Its circular shape is said to provide more head and body room for even the largest hogs because the animals "fan out" instead of crowding together side by side as with box type feeders. The feeder is equipped with two cantilever type hinges for the cover, newly designed feed agitators and an inverted cone hopper bottom which, according to the manufacturer, prevents bridging or lodging of the feed. Check No. 5996 on the coupon and mail it to Feedstuffs to secure details.

No. 6001—Chick Feeder

A new idea in chick feeder design is claimed by Honeggers' & Co., in announcing production of a new 4-ft. chick feeder. The entire trough, including the ends, is fabricated from one piece of 28-gauge metal. "The one piece end in this feeder makes a much more rigid product and eliminates the major weakness of conventional feeder," says a company official. Check No. 6001 on the coupon and mail it to secure details. Please print or type name and address.

No. 6002—Folder on Layer

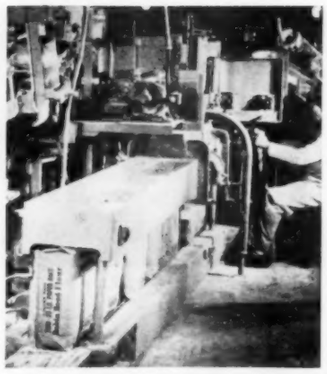
Pillsbury Mills, Inc., has produced a new folder describing its "new, 4-lb. high-production layer that can produce up to 96% grade A or AA eggs," according to a company announcement. The layer is called the "Maxi-Lay Queen." Secure the folder by checking No. 6002 on the coupon and mailing it to Feedstuffs. Please print or type name and address.

No. 5995—Grain Aeration System

New literature on reconditioning grain with a "Vac-U-Vator" and one of Dunbar Kapple's conditioning and preservation processes has been prepared. The "Vac-U-Vator" can convey, track-load, clean, turn and treat grain with insecticides while conveying, according to the company's brochure. Check No. 5995 on the coupon and mail it to secure the literature.

No. 5988 Baler-Sealer

Information about bales for packaging products can be obtained from Tol-O-Matic, Inc. The firm's baler and sealer are two separate devices which can be operated by a single employee. The baler inserts two 25-lb. packages into paper bales. When used with the Tol-O-Matic sealer, the automatic baler requires no additional floor space. The sealer may be adjusted to handle a full range of packages, company officials state. It tucks in the bale end, folds and glues the side flaps and compresses the tops to make a solidly sealed bale for either storage or shipment. Check No. 5988 on the coupon and mail it to secure details. Please print or type name and address.



No. 6003—Coccidiostat-Growth Additive

A product trade-named "Unistat"—a new feed additive that is claimed to prevent coccidiosis, stimulate growth, improve feed efficiency and aid pigmentation in chicks and growing chickens has been developed by Dr. Salsbury's Laboratories. The development of natural immunity against coccidiosis is also claimed. Company officials say that the yellowish flowing powder can be easily blended where commercial feed mixing equipment is used. It is said to be compatible with minerals, vitamins, antibiotics and other normal feed ingredients. Secure details by checking No. 6003 on the coupon and mailing it to Feedstuffs. Please print or type name and address.

No. 5999—Truck Body Conversion

A new "U-14" conversion unit designed to convert any truck body into a bulk and sack delivery truck is being produced by the Simonsen Manufacturing Co. When the unit is mounted on the truck, the truck becomes a delivery unit capable of carrying both bulk and sack feeds. Installed the front end delivery auger reaches 21 ft. up and unloads at a top speed of 600 lb. per minute. The bottom auger, with its variable-speed drive, permits the operator to choose the correct speed for unloading any type of feed, it is claimed. The drive is entirely hydraulic. Check No. 5999 on the coupon and mail it to secure details. Please print or type name and address.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs.

No. 5960—Injectable form of poultry antibiotic, Abbott Laboratories Veterinary Division.

No. 5961—Booklet on animal fats in feeds, American Meat Institute Foundation.

No. 5962—Tape-bound bag closures with portable machine, Dave Fischbein Co.

No. 5963—Paper selector for multiwall paper bags, St. Regis Paper Co.

No. 5965—Flat storage building for grain, Stran-Steel Corp., unit of the National Steel Corp.

No. 5966 — Hydraulically-operated boxcar unloader, Stephens-Adamson Manufacturing Co.

No. 5967—Teat dilators medicated with nitrofurazone ointment, Hess & Clark, Inc.

No. 5968—Anti-pick spray material, Eastern Laboratories, Inc.

No. 5969—Reprint of technical article on the applications and limitations of pneumatic conveying, Sprout, Waldron & Co., Inc.

No. 5970—Methoxychlor insecticide wettable powder, E. I. du Pont de Nemours & Co., Inc.

No. 5971—Bag closure method for open-mouth multiwall bags, Union Bag-Camp Paper Corp.

No. 5972—Swine feeding program report, Merck & Co., Inc.

No. 5973—Vitamin D concentrate for use as milk fever preventive, American Scientific Laboratories, Inc.

No. 5974—Manual on cage layer plants, available without cost in trade area of Beacon Milling Co., small charge made elsewhere.

No. 5975 — Filling and weighing unit for open mouth bags, Chase Bag Co.

No. 5976—Production line bag closing for small bags, Minneapolis Sewing Machine Co.

No. 5977—Red-colored whey block, Western Condensing Co.

No. 5978—Automatic liquid seed treater, Panogen Co.

No. 5979—Calf nursing product, R. L. Kuss & Co., Inc.

No. 5980— Computer for determining feed supplement needed in rations, Nutrena Mills, Inc.

No. 5981—Pocket guide for buyers of feed grains and protein supplements, Agri-Chart Co.

No. 5982—Engineering changes in grain driers, Aeroglide Corp.

No. 5983—Poultry breed specifications brochure, Babcock Poultry Farm, Inc.

No. 5984—12-in. diameter roller mills for flaking and crimping of grains, Ross Machine & Mill Supply.

No. 5985—Corn Sheller for "Feedmobiles," Daffin Manufacturing Co.

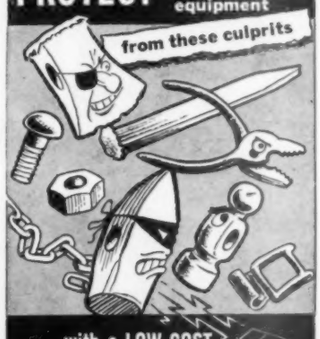
No. 5986—Dust separator, Day Co.

No. 5989—V-Belt booklet, Goodyear Tire & Rubber Co.

No. 5998—Animal health "wheel" for selecting health precautions for livestock and poultry, Chas. Pfizer & Co., Inc.

No. 6000—Bulk feed body brochure, Baughman Manufacturing Co.

PROTECT your expensive processing equipment from these culprits



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The powerful Kelly Duplex Magnetic Separator keeps dangerous tramp iron from entering your hammermill or other processing machinery. Available in any size to meet your needs, it costs nothing to operate . . . is unaffected by vibration . . . gives you unexcelled, low cost protection.

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Without obligation, send me complete information on the Kelly Duplex Magnetic Separator.

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- ☐ No. 5995—Grain Aeration System
- ☐ No. 5996—Self Feeder for Hogs
- ☐ No. 5999—Truck Body Conversion
- ☐ No. 6001—Chick Feeder
- ☐ No. 6002—Folder on Layer
- ☐ No. 6003—Coccidiostat-Growth Additive

(PLEASE PRINT OR TYPE)

Others (list numbers) .....

NAME .....

COMPANY .....

ADDRESS .....

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Butler defluorinated phosphate is a granular, non-caking, free flowing phosphate containing 19% phosphorus, minimum 32%-maximum 35% calcium and no more than .19% fluorine. Our continuous research program enables us to assure you that Pollyphos meets the highest standards required in production of phosphatic feed supplements.

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Your order, for Butler Pollyphos, whether in bags, or in bulk, truck or carload lots—will receive the same prompt attention. From the time your order is placed, to the time of delivery, you are assured the fastest, most economical, courteous service possible.

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BC 5802

Study Shows Egg Buying Attitudes

CHICAGO—Earliest findings in the motivation research recently initiated by the Poultry and Egg National Board show that homemakers have a "very favorable" attitude toward eggs, according to Lloyd H. Geil, PENB general manager.

This is revealed in a study under way among 1,200 homemakers in the East, West, North, South and Midwest to obtain America's attitudes toward eggs. The purpose of the survey is to provide industry guidance in planning and directing its egg and poultry meat promotions.

Complete results will be presented April 10 at PENB's annual meeting at the La Salle Hotel, Chicago, by Louis Cheskin, Chicago, whose motivation research firm is conducting the study.

Some of the preliminary findings refute a widespread belief of the poultry industry that the highly-publicized subject of dietary fat and its effect upon health is cutting heavily into egg sales.

The findings show, for instance, that only 7% of the homemakers surveyed think of eggs as not good for the heart, and that only 11% consider eggs as fattening.

Results also show that 94% of the homemakers surveyed consider eggs as a necessary food, and 91% associate eggs with breakfast. Also, 59% use eggs for breakfast and 48% use cereals. The figures indicate that some use both eggs and cereals.

Illinois Reports Thyroprotein Tests

URBANA — Dairy cows eat more feed when they get thyroprotein in their rations, reports Leo Fryman, extension dairy specialist at the University of Illinois College of Agriculture.

Feeding trials at the University of Illinois and the U.S. Department of Agriculture show that cows fed thyroprotein require 25 to 30% more feed than cows not fed this material, he said.

Some cows on the test were stimulated to produce more milk in the last half of their lactation when they were fed thyroprotein than other cows that were not. But because of the widely varying responses to this material, returns above feed cost also varied widely, Mr. Fryman reports.

In cows showing the best response to thyroprotein, the returns above feed cost increased slightly. In groups of cows showing average response or less, the returns were lower when thyroprotein was fed, it was reported.

Cows fed thyroprotein during hot weather lost from 40 to 135 pounds of body weight in four weeks. Cows not getting the material held their weight steady. Thyroprotein increased heart beat rate and as much as 50% in breathing rate in the tests. This indicates a higher metabolism rate that accounts for the need for more feed.

These studies indicate that it is not advisable to feed thyroprotein to the average dairy herd, the dairyman said. It is not permissible to feed it to cows on official Herd Improvement Registry or Advanced Registry testing. No publicity is given to records made in herds in Dairy Herd Improvement associations when thyroprotein is fed, and all records completed in such herds are marked to indicate that thyroprotein was fed.

William H. Roth

FIELD MAN—U.S. Industrial Chemicals Co., New York, has appointed William H. Roth as western field representative for the company's livestock liquid feed supplement, Morea. The firm is a division of National Distillers and Chemical Corp. Mr. Roth will be located at Los Angeles. Prior to the new appointment he bought and sold cattle for the Coates Commission Co., San Francisco. He also has been a buyer for Armour & Co., Chicago. He is an animal husbandry graduate of California Polytechnic State College.

Chemists Schedule Summer Meeting

WASHINGTON—The 86th annual meeting of the Manufacturing Chemists' Assn. will be held June 12-14 at The Greenbrier in White Sulphur Springs, W.Va., according to an announcement of MCA. It is anticipated that more than 700 chemical industry executives will attend.

S. B. Penick, Jr., president of S. B. Penick & Co., is program chairman.

OPENS NEW STORE

DECORAH, IOWA — The M&M Livestock Products Co., Eagle Grove, has opened a store at Decorah with William Fritz in charge.

QUIZ
For Multiwall Bag Buyers

"How Does Your Packaging Operation Rate?"

1 Is your bag correctly sized for your product?
2 Is your bag properly constructed for your product?
3 If loss of product is caused by deterioration, would special protective sheets help to reduce such loss?
4 Is the total cost of your bag out of proportion to the selling price of your product?
5 Does your product cost warrant redesigning your bag to merchandise your product more effectively?
6 Are you using the most economical filling machine available for packaging?
7 Are your current suppliers giving you the service you desire?
8 Are your suppliers integrated and capable of maintaining dependable service at all times, under all conditions?
9 Are your suppliers' representatives qualified to help you with your packaging, sales promotion and marketing?

Perhaps we may be able to help you to arrive at the right answers in order to achieve higher production at lower costs.

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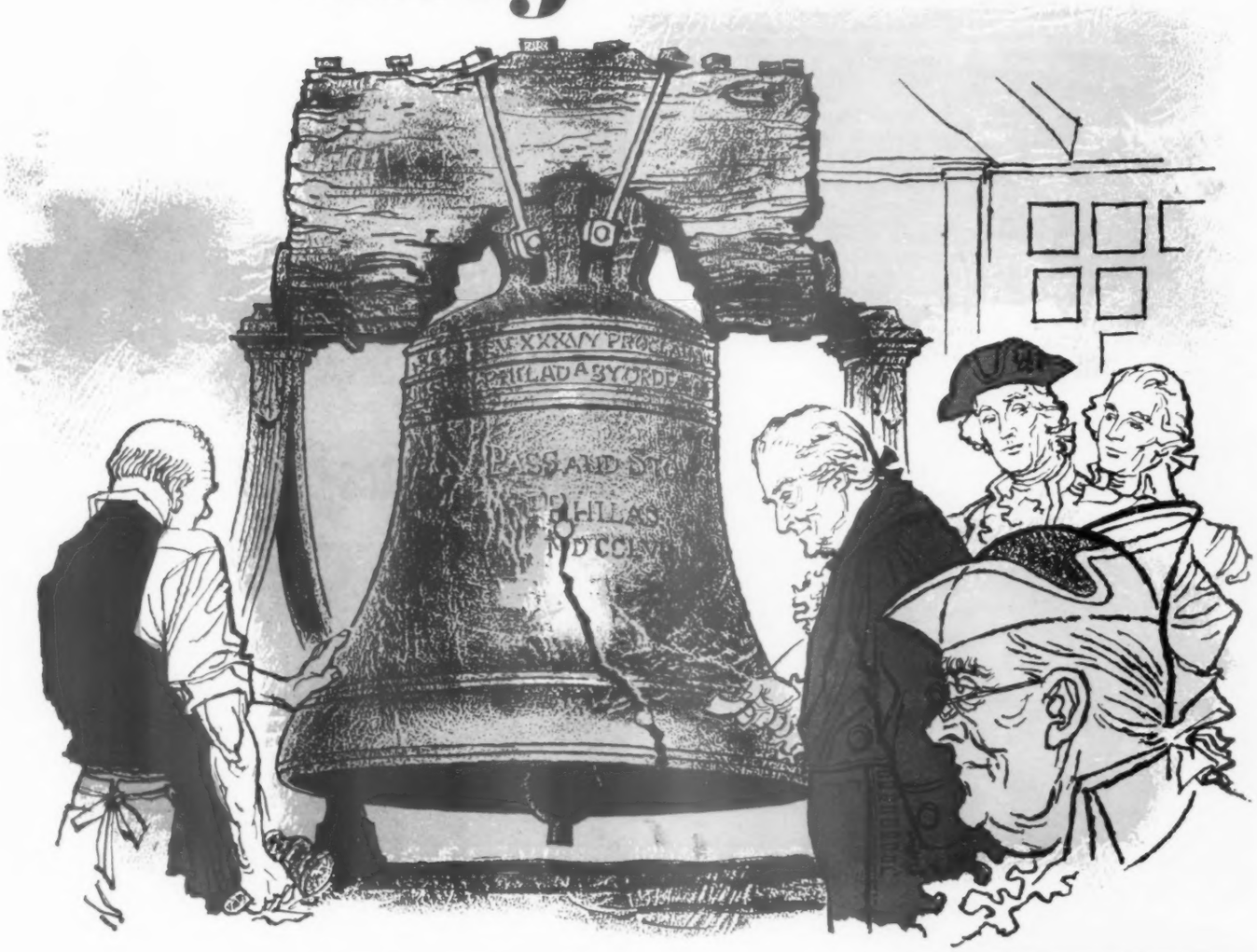

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*GRAIN FERMENTATION FACTORS
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Commercial Egg Output Increased In North Carolina

RALEIGH, N.C.—North Carolina, long recognized as a leading hatching egg and baby chick producer, is showing tremendous strides in commercial egg production.

While this trend is typical of many of the Dixie states, due chiefly to egg quality laws, North Carolina poultry extension staff personnel have been placing particular emphasis on the potential of planned egg production.

As Clayton P. Libeau, marketing specialist says, "Production of commercial eggs and marketing facilities to handle it can be built at the same time."

He added that North Carolina's proximity to major population centers, such as Norfolk, Richmond, Washington, Baltimore, Philadelphia and New York, opens up marketing possibilities.

The national picture of less hens on farms was cited as possibly a big factor in encouraging expanded production in the Tar Heel state. Mr. Libeau cited the decrease of 6 to 8% in the number of hens throughout the country, while North Carolina will show an increase of slightly more than that.

Buyer Interest

Buyer interest in the expansion of the North Carolina commercial egg production was shown by a recent announcement of the Colonial Stores, one of the nation's largest supermarket chains, to sell North Carolina-produced eggs exclusively in 79 stores. The chain, serving the Southeast, has been buying the bulk of its eggs from the Midwest.

In line with policy to buy from local sources, the chain has been obtaining its entire supply for the Raleigh division from producers nearest its stores.

The plan, poultry specialists point out, has many long range factors since the company has been cooperating closely with the North Carolina Departments of Labor, Conservation, and Agriculture, as well as the School of Agriculture at North Carolina State College.

Hatcherymen, who have been relying on North Carolina flocks for a source of hatching eggs, have expressed no "undue concern" about the laying hen expansion since most of it has been with existing flocks. Most of the newcomers to the commercial egg business, they believe, are farmers who are adding poultry as a "diversification to their operations," rather than a change from hatching to commercial eggs.

The Southeastern states have always been egg deficit areas, it has been pointed out, and the increase of commercial egg production has been absorbed by local markets. However, many poultrymen have indicated the steady production, on a large scale, will enable these states to move into midwestern markets eventually. Natural advantages of the area, which have played no little part in the development of the broiler business, will make it possible for southeastern egg producers to meet competition from midwestern egg centers, they believe.

A significant factor in the development of the southeastern commercial egg business has been an effort on the part of the state departments of agriculture to work out greater uniformity in the terminology of existing state egg grading laws to "eliminate potential trade barriers between the Dixie states."

While the most notable activity in the development of the commercial egg business is seen in North Carolina; Georgia, Alabama and Mississippi, as well as Tennessee, have been slowly, but steadily increasing in egg production, and some Florida poultrymen indicate that state will soon be an important egg exporting state —particularly into the eastern wholesale markets.

Richard P. Wesley

NEW DIRECTOR—The stockholders of S. Howes Co., Silver Creek, N.Y., have elected Richard P. Wesley a director. Mr. Wesley has been active in the milling industry for 25 years and has been employed by S. Howes since 1955. He has been vice president in charge of sales since 1957. Mr. Wesley is a native of Buffalo, N.Y., and a graduate of Harvard, school of engineering.

Cincinnati Board of Trade Elects Head

CINCINNATI — E. P. Henderson, manager of grain purchasing and by-product sales for Schenley Distillers, Inc., has been elected president of the Cincinnati Board of Trade, Inc., for the current year.

His election by the directors of the civic group followed his election by the board membership as a director for a second consecutive three-year term.

Mr. Henderson joined the Schenley organization in 1945. Besides his present position he has served as bottling superintendent, plant manager and regional manager of the company's Lawrenceburg, Ind., distillery.

In addition to his work for the Cincinnati Board of Trade, the Schenley executive is active in other civic and industrial organizations. He is a director, vice president and chairman of the budget and finance committee of the Distillers Feed Research Council and is also a member of the board of directors of the Bourbon Beef Cattle Assn.

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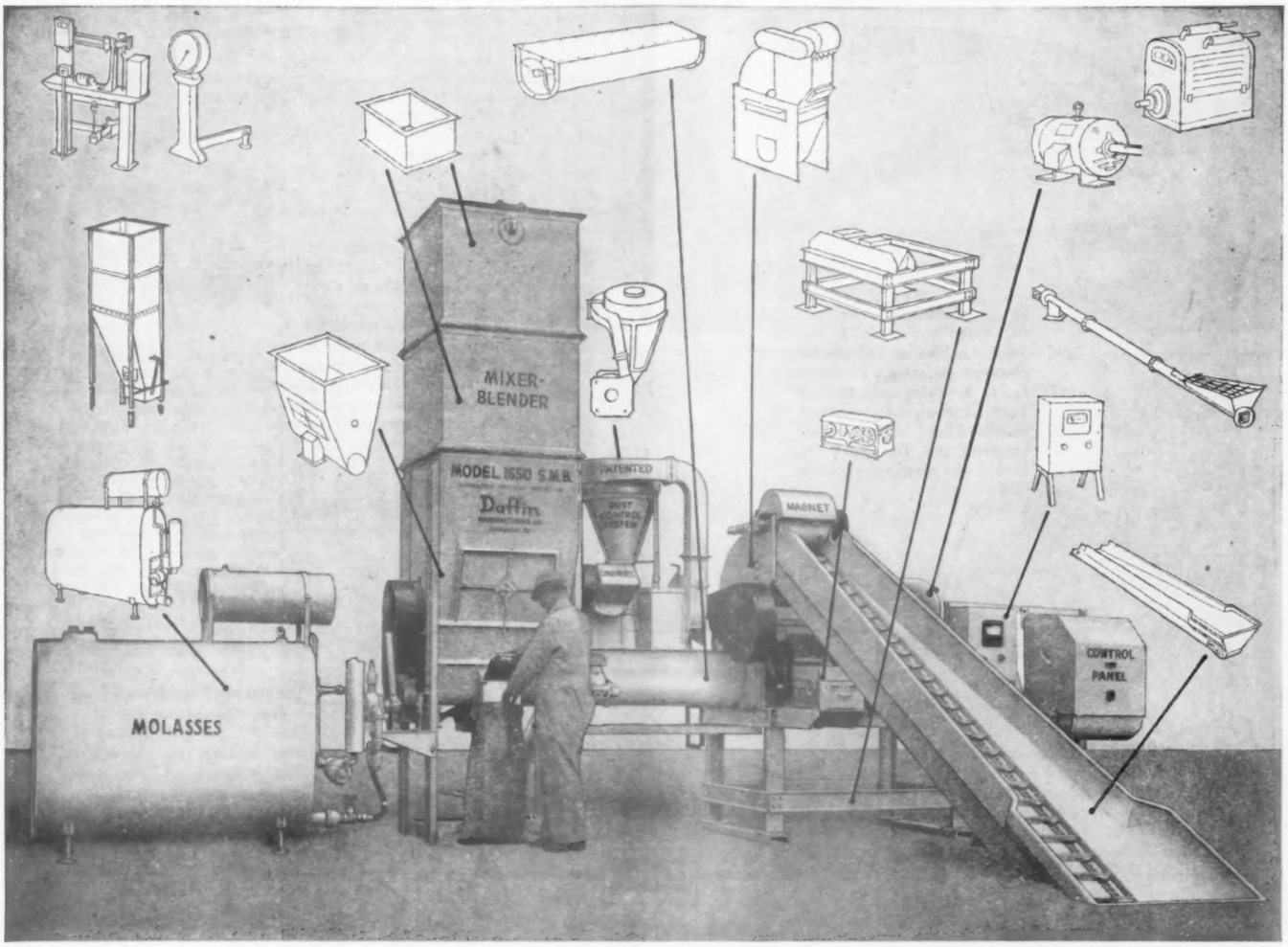
NEW! Daffin PACKAGED FEED MILLS with MODULAR DESIGN



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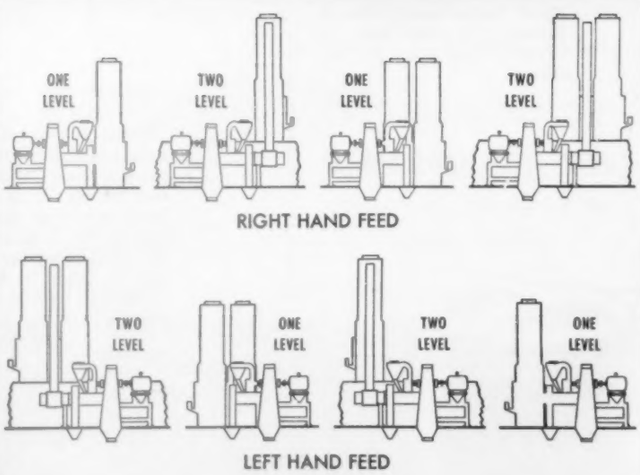

Daffin Feed Mills

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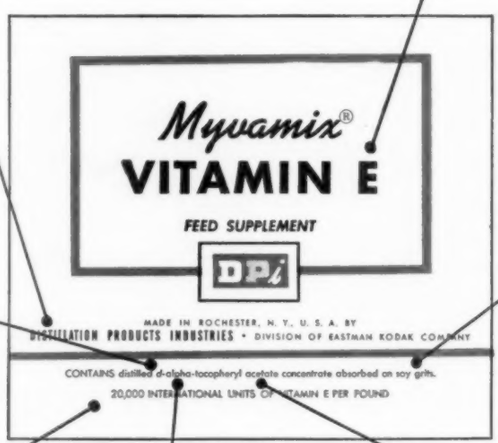
For information or a quotation on *Myvamix Vitamin E Feed Supplement*, write ***Distillation Products Industries,*** Rochester 3, N. Y. Sales offices: New York, Chicago, and Memphis • Charles Albert Smith Limited, Montreal and Toronto • Or, contact the distributor nearest you.

Vitamin E is considered by many authorities to be an essential part of a nutritionally complete diet for chickens, turkeys, dogs, and other animals. We will be happy to send literature references on request.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VITAMIN E
FEED SUPPLEMENT
DPi
MADE IN ROCHESTER, N. Y., U. S. A. BY
DISTILLATION PRODUCTS INDUSTRIES • DIVISION OF EASTMAN KODAK COMPANY
CONTAINS distilled d-alpha-tocopheryl acetate concentrate absorbed on soy grits.
20,000 INTERNATIONAL UNITS OF VITAMIN E PER POUND

The "d" means the vitamin E in *Myvamix Vitamin E Feed Supplement* is the same stereoisomer that appears in nature. 1 milligram of *d*-alpha-tocopheryl acetate is equivalent to 1.36 International Units of Vitamin E.

The vitamin E in *Myvamix* is on a dry, non-dusting soy grits base. We use grits instead of meal because they have less fiber, less moisture, more protein, more uniform particle size, and are dusted to remove hulls and powder. All this means a higher quality product, one that's as easy to handle as anything in your mill.

With *Myvamix*, you know exactly how much vitamin E is in your feed. There's a sure 20,000 International Units of Vitamin E per pound. The cost is only a few dimes per ton of feed.

There are at least seven tocopherols which have some vitamin E activity. The most effective biologically is "alpha." That's what is in *Myvamix Vitamin E Feed Supplement*. (Only 10 to 15% of the tocopherols in corn is "alpha"—the rest is "gamma," one of the least effective of all.)

The "acetate" means that the vitamin E in *Myvamix* is really stable. Tests show no loss of potency even after storage in finished feeds for six months at 100 F. The full potency you put in the feed is there when the feed is fed.

Donald E. Schrader

DISTRICT MANAGER — Donald E. Schrader, Dallas, Texas, has been appointed manager of the southern district of the mobile feed mill division of Daffin Manufacturing Co., Lancaster, Pa., according to a recent company announcement. Areas under his jurisdiction include Texas, Oklahoma, Louisiana, Tennessee, Mississippi and northern Alabama. A graduate of the University of Pennsylvania, Mr. Schrader was formerly sales engineer for a Pennsylvania firm. He has been with Daffin since June, 1956.

Egg Promotion Event Staged in Boston

BOSTON—A "Golden Egg Breakfast" was held in Boston recently to introduce "March Egg Month."

The breakfast was sponsored by the Massachusetts committee of the Poultry & Egg National Board and was staged by the New England branch of the PENB.

The 60 guests were representatives of the Boston area press, radio, TV and gas and electric home service, whose work involves the food field. Also in attendance were representatives of school lunch programs, public health work, local college home economics departments and others whose work involves influencing consumers' food shopping and eating habits.

One of the breakfast speakers, Harry A. Grant, Wirthmore Feeds, Inc., Malden, Mass., said, "While U.S. farmers make up less than 1% of the world population, they produce 51% of the world's eggs." He also mentioned that due to labor, feed, breed and management efficiencies, the American homemaker today pays no more for eggs than she did 10 years ago and that the eggs are generally of better quality.

Another speaker, Dr. Jean Mayer, Harvard School of Public Health, referred to eggs as "the best balanced protein food" in diets for overweight people.

New Man Joins Feed Group in Pennsylvania

HARRISBURG, PA. — Arden S. Aughenbaugh, Lemoyne, Pa., has joined the Pennsylvania Farm Bureau Cooperative Assn., Harrisburg, as a feed division field representative.

According to John L. McCormick, Pennsylvania Farm Bureau feed sales and service manager, he will serve the eastern section of Pennsylvania.

Mr. Aughenbaugh attended the University of Vienna and the University of Maryland, and recently completed an eight-year tour of duty with the Army.

He previously was engaged in feed sales and service work in southern Pennsylvania and northern Maryland.

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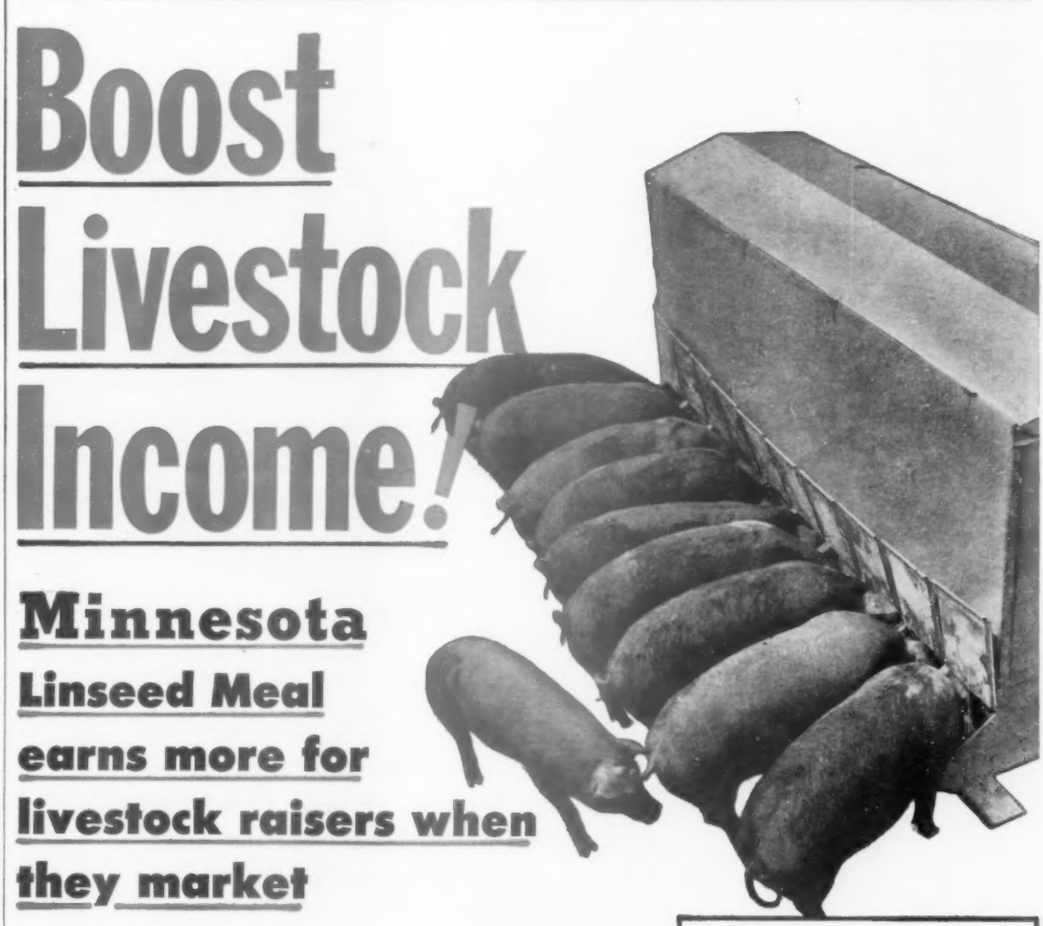
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Minnesota Linseed Meal earns more for livestock raisers when they market
Palatable, slightly laxative Minnesota Linseed Meal conditions—puts a bloom on stock—and helps livestock raisers get top prices when they sell.
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STILBESTROL

(Continued from page 33)

tle and the results obtained in a lamb fattening experiment in which varying energy to protein rations were fed.

Since the selling price of the cattle in this experiment was on the basis of grade and yield this difference in carcass quality exerted a strong influence upon the margin per steer realized over feed costs. In the case of the high energy-to-protein ration, stilbestrol increased margin per steer by $18.62 (table 2, $24.48—$5.86). On the low energy-to-protein ration this difference disappeared since the advantages of lowered costs of gains from stilbestrol in this ration were offset by the lower selling price of the cattle.

Therefore, it would appear from this experiment, using current prices, that the selection of a cattle fattening ration with the optimum calorie-to-protein ratio is of sufficient importance when selling cattle on grade and yield that it can make the difference between either an $18 profit per steer or making no profit from stilbestrol usage. Where fat cattle are not sold on grade and yield these differences would be less self-evident and the average profit from stilbestrol on all types of rations would be about $10 per steer.

The optimum calorie-to-protein ratio in a fattening ration when stilbestrol is used appears to be 65 to 70 net energy calories in each pound of air-dry feed per percentage of protein in the total ration. This calorie-to-protein ratio in fattening rations for yearling cattle fed in this area is most easily attained with a full feed of corn in which the hay is limited to 2 to 4 lb. per animal daily and the protein supplement (28 to 40%) is limited to one pound per animal daily. Where corn silage makes up the principal part of the fattening rations, or where little or no hay is fed, somewhat more protein supplement (2 lb. per animal daily) can be fed and still maintain this desirable calorie-to-protein ratio.

It thus appears that in fattening rations for both cattle and sheep too much protein in the ration can be injurious to carcass grade, just as too little protein can be undesirable. It further appears that the amount of protein needed when stilbestrol is fed in fattening cattle rations is less than the amount of protein needed in the same rations without stilbestrol, if one wishes to obtain maximum slaughter grades in cattle. For example, when stilbestrol was not fed, 2 lb. of protein supplement produced higher-grading carcasses than did one pound (table 2). On the contrary, when stilbestrol was fed, 1 lb. of protein supplement produced higher grading cattle carcasses than 2 lb. of protein supplement.

These results with fattening cattle rations with respect to different calorie-to-protein ratios should not be confused with results with growing animals where carcass grade or the fatness of the animal is less of a consideration. In growing rations, for example, as well as fattening cattle rations, stilbestrol stimulates live weight gains and lowers feed costs in almost all rations having widely different calorie to protein ratios.

3. Doubling the amount of stilbestrol fed during the last 56 days before slaughter, or after the cattle weighed about 1,000 lb., also increased carcass grades, increased feed lot gains, lowered costs of gains and increased margins over feed costs as compared to feeding either no stilbestrol or feeding the regular 10 mlg. level all through the feeding period. The feeding of the regular 10 mlg. level all through the experiment put on an additional 53 lb. of gain per steer over the control cattle. The stepped-up method of feeding stilbestrol put on another 15 lb. for a total of 68 lb. more per steer than the control cattle. This additional 15 lb. gain was more than enough to pay the extra cost of the higher level of stilbestrol. Total feed costs were reduced accordingly. This lowering of feed costs plus the higher market value (50¢ cwt.) of the cattle receiving the stepped up amount of stilbestrol just prior to slaughter increased their financial returns over feed costs substantially (table 3).

The control cattle showed a margin of $13.68 per head. The cattle fed the regular amount (10 mlg. per head daily) of stilbestrol showed a margin over feed costs of $22.99. This represents an extra return of about $17 for each dollar spent on stilbestrol. Finally the cattle fed 10 mlg. for 90 days, then 20 mlg. of stilbestrol for 56 days, showed a margin of $32.35 per steer. This represents an extra return of about $24 for each dollar

TABLE 2. Stilbestrol Benefits in Cattle Rations Having Different Energy to Protein Ratios

Conducted June, 1957, to December, 1957, at Beef Nutrition Farm, Iowa Agricultural and Home Economics Experiment Station, Ames, Iowa

12 steers per lot 146 days on experiment	—No stilbestrol— Low energy protein	High energy protein	—With stilbestrol— Low energy protein	High energy protein
Initial weight, lb.	784	780	784	782
Final weight, lb.	1104	1088	1153	1142
Average daily gain, lb.	2.16	2.13	2.50	2.43
Average daily ration—				
Ground ear corn, lb.	16.3	18.3	16.7	18.8
Alfalfa hay, lb.	6.0	2.0	6.0	2.0
Supplement, lb.	2.0	1.0	2.0	1.0
Total, lb.	24.3	21.3	24.7	21.8
Feed per 100 lb. gain—				
Ground ear corn, lb.	755	861	672	776
Alfalfa hay, lb.	277	94	240	83
Supplement, lb.	92	47	80	41
Total, lb.	1124	1002	992	900
Feed cost per lb. gain,* cents	19.2	17.8	17.0	16.2
Selling price/cwt. cattle†	$23.50	$22.10	$22.60	$23.00
Dressing per cent‡	59.3	59.1	59.1	59.1
Carcass grade¶	8.1	6.7	7.2	7.5
Margin per steer over feed costs	$17.76	$5.86	$17.53	$24.48

*Feeds were charged as follows: Corn, $1.25 bu.; alfalfa hay, $18 ton; supplement per ton, Lot 1—$70, Lot 2—$74, Lot 3—$70, and Lot 4—$78.

†Selling price per cwt. was actually based on grade and yield and the final weight of the cattle in the Ames lots less shipping costs.

‡Dressing per cent was based on final Ames weight as listed above and hot dressed carcass weights in Mason City, shrunk 2.5%.

¶Carcass grade was computed using the following numerical values: High good—6.0, low choice—7.0, and average choice—8.0.

All Lime Crest trace-mineral pre-mixes, both standard and custom made, are under rigid laboratory control. That control begins with the ingredients and doesn't end until the final product has been checked.

Because of Lime Crest's complete laboratory control (both chemical and spectrographic methods are used) the feed manufacturer who uses Lime Crest trace-mineral pre-mixes need not worry that his feeds contain too little or too much of the trace minerals his nutritionist has specified.

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Animal Fat Treated
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ALFALFA—MOLASSES
Sundried Alfalfa—20% Cane Molasses

ALFA—CANE
Dehydrated Alfalfa - Animal Fat - Cane Molasses

ROHLOFF BROS., INC.
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TABLE 3. Doubling Stilbestrol Feeding Two Months Prior to Slaughter of Cattle

Conducted June, 1957, to December, 1957, at Beef Nutrition Farm, Iowa Agricultural and Home Economics Experiment Station, Ames, Iowa

24 steers per lot 146 days on experiment	Control no stilbestrol	Regular 10 mg. stilbestrol	10 mg. then 20 mg.
Initial weight, lb.	785	783	785
Final weight, lb.	1096	1147	1164
Average daily gain, lb.	2.14	2.46	2.56
Average daily ration—			
Ground ear corn, lb.	17.3	17.8	17.7
Alfalfa hay, lb.	4.0	4.0	4.0
Supplement, lb.	1.5	1.5	1.5
Total, lb.	22.8	23.3	23.3
Feed per 100 lb. gain—			
Ground ear corn, lb.	808	724	694
Alfalfa hay, lb.	185	162	157
Supplement, lb.	70	61	59
Total, lb.	1063	947	910
Feed cost per lb. gain,* cents	18.6	16.7	16.0
Selling price/cwt. cattle†	$23.00	$23.00	$23.50
Dressing per cent‡	59.2	59.1	59.3
Carcass grade¶	7.4	7.4	7.9
Margin per steer over feed costs	$13.68	$22.99	$32.35

*Feeds were charged as follows: Corn, $1.25 bu.; alfalfa hay, $18 ton; supplement without stilbestrol, $70 ton; supplement with 7 mg. stilbestrol per lb., $72.80 ton, and supplement with 14 mg. stilbestrol per lb., $75.60 ton.

†Selling price per cwt. was actually based on grade and yield and the final weight of the cattle in the Ames lots, less shipping costs.

‡Dressing per cent was based on final Ames weight as listed above and hot dressed carcass weights in Mason City, shrunk 2.5%.

¶Carcass grade was computed using the following numerical values: High good—6.0, low choice—7.0 and average choice—8.0.

spent on stilbestrol in using this procedure.

4. The results obtained in this experiment require further study. However, the two new methods described for making better use of stilbestrol supplements give promise of stepping up feed lot performance in fattening cattle and, more important, stepping up quality characteristics of the beef produced. Selection of rations with high calorie-to-protein ratios can be put to good use immediately.

The feeding of levels of stilbestrol higher than 10 mlg. per animal daily during the latter part of the feeding period is not now permitted by federal Food and Drug regulations. However, this restriction is likely to receive careful consideration in the near future. In the meantime, it seems obvious that when feeding stilbestrol to fattening cattle, the stilbestrol should be fed right up to 48 hours before marketing. It should not be withdrawn 30 to 60 days prior to slaughter with the idea that such a procedure would improve carcass grades. It is likely that withdrawing stilbestrol will actually promote poorer carcasses, since the stepped-up stilbestrol feeding late in the fattening period increased carcass grades.

GENERAL MILLS DIVIDEND

MINNEAPOLIS—The board of directors of General Mills, Inc., Minneapolis, has declared a quarterly dividend of $1.25 per share on General Mills 5% preferred stock, payable April 1 to stockholders of record March 10, 1958.

This is the 74th consecutive quarterly dividend on General Mills, Inc., 5% preferred stock.

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MAZOFERM significantly increases the growth rate of chicks on rations containing adequate levels of fish and whey factor ingredients. (Experimental rations have included the ANRC, NECC Rations, and several commercial rations.)

MAZOFERM is an exceptionally rich source of whey factor activity. Mazoferm permits complete replacement of fish solubles or 50% replacement of fish meal.

MAZOFERM increases pellet hardness by 10–20%.

MAZOFERM is an economical source of unidentified chick growth factors. Its use enhances dollar returns over feed cost by $25 to $30 per 1000 broilers.

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CONVENTION CALENDAR

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear ahead of the ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

• • •

April 24 — Arkansas Sheep Study Day; University of Arkansas, Agricultural Experiment Station, Fayetteville, Ark.; chm., Dr. P. R. Noland, University of Arkansas.

May 2 — Georgia Broiler School; University of Georgia, College of Agriculture, Athens, Ga.; chm., James E. Murphy, University of Georgia.

May 18-20—Grain Processing Machinery Manufacturers Assn.; Hotel Sherman, Chicago, Ill.; sec., Raymond J. Walter, 551 Fifth Ave., New York 17, N.Y.

Aug. 8-9 — North Carolina Feed Manufacturers Assn.; Grove Park Inn, Asheville, N.C.; sec., A. W. Koon, Box 1664, Spartanburg, S.C.

1959

Jan. 26-28 — Southeastern Poultry & Egg Assn., Atlanta, Ga.; sec., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

• • •

March 24-25—Arkansas Beef Study Day; University of Arkansas, Fayetteville, Ark.; chm., Dr. C. J. Brown, associate animal husbandman.

March 27-28—National Symposium on Nitrofurans; Georgia Center for Continuing Education, University of Georgia, Athens, Ga.; chm., Dr. C. C. Murray, dean of the College of Agriculture.

April 2 — Illinois Swine Growers Day; University of Illinois; Urbana, Ill.; chm., Dr. S. W. Terrell, Animal Science Dept.

April 8—Purdue Egg Day; Purdue University, Lafayette, Ind.; chm., David D. Jackson, extension poultryman.

April 8—New Hampshire Poultry Growers Assn.; Memorial Union Bldg., University of New Hampshire, Durham, N.H.; sec., Richard Warren, extension poultryman.

April 10-11—Poultry & Egg National Board; LaSalle Hotel, Chicago; Lloyd H. Gell, general manager, 8 S. Michigan Ave., Chicago 3, Ill.

April 16—New England Branch of Poultry & Egg National Board; Framingham, Mass., Country Club; chm., Waldo W. Chick, Wells, Maine.

April 17-19—California Hay, Grain & Feed Dealers Assn., Ambassador Hotel, Los Angeles; sec., John F. Gilmore, 1400 10th St., Sacramento 14, Cal.

April 18—Nebraska Feeders Day, University of Nebraska, College of

CALENDAR FOR 1958-59

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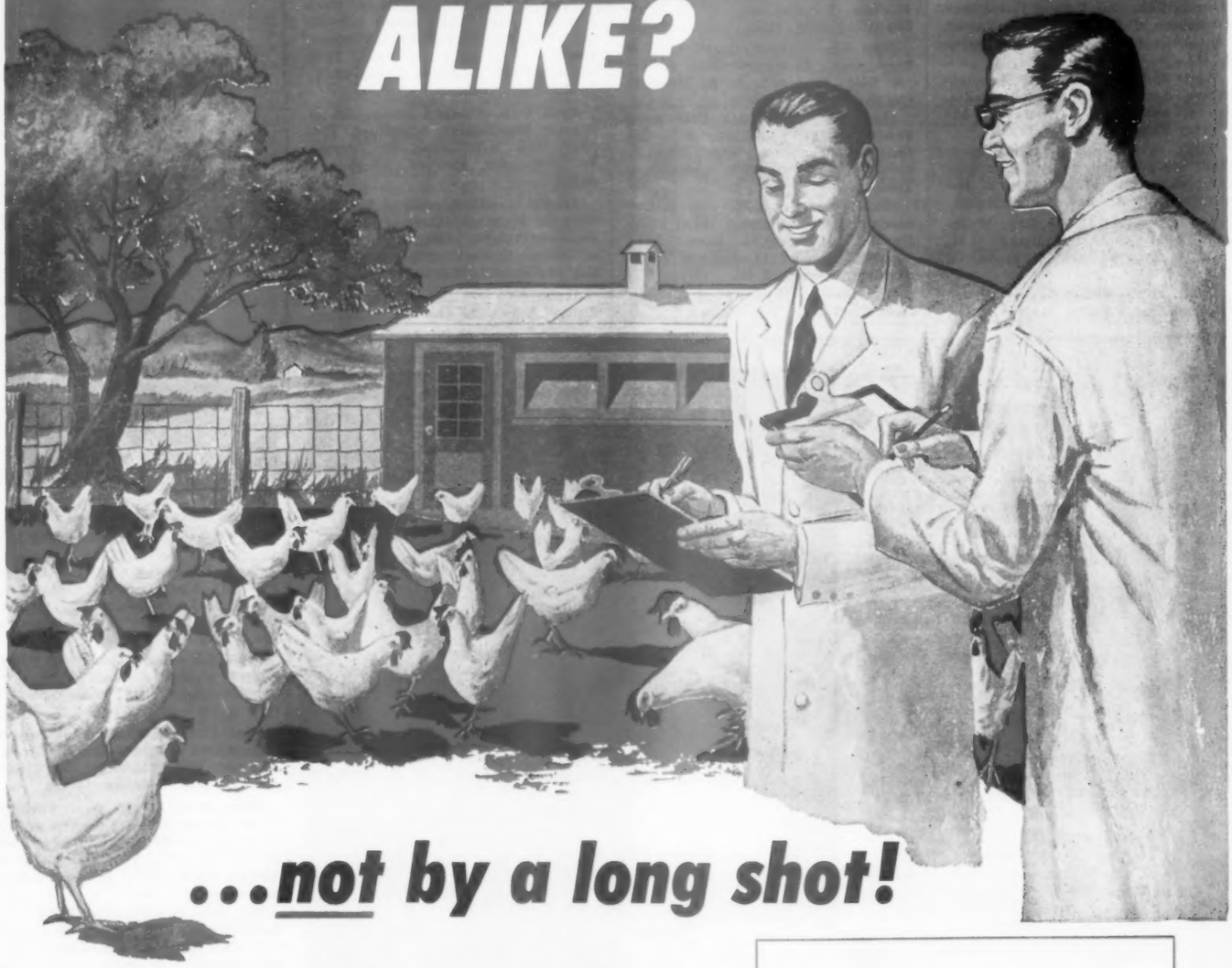

...not by a long shot!

Nutritionally, CDP is a tried and tested* source of phosphorus, palatable to livestock even in free choice feeding. All of the phosphorus in CDP has demonstrated total biological availability to both plant (rumen bacterial micro-organisms) and animal life.

*Tested at state experiment stations and research laboratories not affiliated with Coronet.

Nutritional evidence establishing CDP as the *best* defluorinated phosphate is listed below. Literature available upon request.

1. "The Availability of Phosphorus from Different Sources for Poults Fed Purified Diets." *Poultry Science,* Volume XXXIII, Number 5, September, 1954.
2. "A Comparison of the Availability, to the Young Growing Chicken, of the Phosphorus in Defluorinated Phosphate and Analytical Reagent Grade Dicalcium Phosphate," by Lime Crest Research Laboratory, October, 1954.
3. "The Availability of Phosphorus from Different Sources for Poults Fed Practical-type Diets," *Poultry Science,* Volume XXXIV, Number 5, September, 1955.
4. "Phosphorus Availabilities as Determined by New Feeding Experiment," by Lime Crest Research Laboratory, November, 1955.
5. "Phosphorus Availability Assays by the University of Illinois (as presented by Dr. H. M. Scott) Method," by the Laboratory of Vitamin Technology, Inc., September, 1956.

Read what a leading nutritionist says about phosphorus availabilities:

"The feed nutritionist should be aware that the phosphorus in all phosphorus supplements is not available. The phosphorus supplier should be required to provide data concerning the availability of phosphorus in the supplement. Phosphorus supplements available to the feed trade may range from as low as 23% to as high as 92%. Thus the importance of phosphorus availability is immediately apparent."

Dr. J. R. Couch, *Formulation of Feeds for Laying Hens,* Feedstuffs, *July 27, 1957, pp. 18-24*

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April 20-21-22—Nebraska Grain & Feed Dealers Assn.; Hotel Cornhusker, Lincoln; sec., Howard W. Elm, Trust Bldg., Lincoln, Neb.

April 20-23—National Fisheries Institute; Sheraton Palace Hotel, San Francisco, Calif.; chm., Mal Xavier, 1614 20th Street N.W., Washington 9, D.C.

April 23-24—Texas Feed Manufacturers Assn., Baker Hotel, Dallas, Texas; sec., Ben E. Schmitt, 528 Bewley Bldg., Ft. Worth, Texas.

April 25—Indiana Cattle Feeders Day; Purdue University, Lafayette, Ind.; chm., Dr. W. M. Beeson, Department of Animal Husbandry.

April 25—Beef Cattle Day; Washington State College, Pullman; chm., Dr. I. A. Dyer, Department of Animal Science.

April 25-26—Texas Grain & Feed Dealers Assn.; Baker Hotel, Dallas, Texas; sec., Ben M. Ferguson, 614 Meacham Bldg., Ft. Worth, Texas.

April 28-30—Animal Health Institute; Shoreham Hotel, Washington; exec. sec., D. L. Bruner, 540 Des Moines Bldg., Des Moines 9, Iowa.

May 1-3 — Kansas Grain & Feed Dealers Assn.; Broadview Hotel, Wichita, Kansas; sec., O. E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

May 4-5—Missouri Grain, Feed & Seed Assn.; Hotel Governor, Jefferson City, Mo.; sec., D. A. Meinershagen, Higginsville, Mo.

May 4-6 — National Cottonseed Products Assn.; Atlanta Biltmore Hotel, Atlanta, Ga.; sec., John F. Moloney, P.O. Box 5736, Memphis 4, Tenn.

May 11-16—Grain Elevator & Processing Superintendents; Hotel Pick-Nicollet, Minneapolis, Minn.; sec., Dean M. Clark, 1115 Board of Trade Building, Chicago 6, Ill.

May 19—Des Moines Feed & Grain Club Field Day; Des Moines Golf & Country Club; chm., Bill Rogerson, 1901 E. Euclid Ave., Des Moines 13, Iowa.

May 21-23—American Feed Manufacturers Assn.; Morrison Hotel, Chicago; sec., W. T. Diamond, 53 W. Jackson Blvd., Chicago 4, Ill.

June 1-3—Indiana Grain & Feed Dealers Assn., mid-summer convention; French Lick-Sheraton Hotel, French Lick, Ind.; exec. sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis, Ind.

June 8-10—Eastern Federation of Feed Merchants; Whiteface Inn, Whiteface, N.Y.; exec. dir., Austin W. Carpenter, Box 66, Sherburne, N.Y.

June 9-11—Association of Southern Feed & Fertilizer Control Officials; Heart of Atlanta Motel, Atlanta, Ga.; sec.-treas., Bruce Poundstone, University of Kentucky, Lexington, Ky.

June 10-12 — Alabama Poultry Industry Assn.; Auditorium, Birmingham, Ala.; exec. sec., W. L. Walsh, P.O. Box 567, Montgomery, Ala.

June 16-18—American Association of Feed Microscopists, Chateau Laurier, Ottawa, Canada; sec., G. M. Barnhart, Missouri Department of Agriculture, Jefferson City, Mo.

June 16-18—Tri-State Hatchery & Field Agents School; Poultry Science Department, Purdue University, Lafayette, Ind.; chm., David D. Jackson, extension poultryman.

June 19-20—Purdue Poultry Service & Salesmen's Clinic; Poultry Science Department, Purdue University, Lafayette, Ind.; chm., David D. Jackson, extension poultryman.

June 26-28 — Delmarva Chicken Festival; Denton, Md.; chm., John Asher, R.F.D. No. 2, Box 35-A, Georgetown, Del.

June 27-30—Canadian Feed Manufacturers Assn.; Murray Bay, Quebec; conv. sec., Rachel Beauchamp, 110 St. Paul Street, East, Montreal, Canada.

June 28-July 1—Georgia Feed Assn.; General Oglethorpe Hotel, Wilmington Island, Savannah, Ga.; sec.-treas., Will L. Kinard, 3240 Peachtree Rd. Bldg., Atlanta 5.

July 18-19—Kansas Seed Dealers Assn., Hotel Broadview, Wichita, Kansas; sec., O. E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

July 22-25 — American Poultry & Hatchery Federation; Cleveland Auditorium (Ohio); convention mgr., Ed G. Gray, 521 E. 63rd St., Kansas City 10, Mo.

Sept. 7-8—Grain & Feed Dealers National Assn., Sheraton-Jefferson Hotel, St. Louis, Mo.; chm., Alvin E. Oliver, 600 Folger Bldg., Washington 5, D.C.

Sept. 7-9—Louisiana Poultry Improvement Assn.; Jung Hotel, New Orleans, La.; sec., Clyde Ingram, University Station, Baton Rouge, La.

Sept. 17-19—National Feed Ingredients Assn., Congress Hotel, Chicago, Ill.; sec., Peter W. Janss, 212 Equitable Bldg., Des Moines, Iowa.

Sept. 25-26 — Arkansas Formula Feed Conference; University of Arkansas, Fayetteville, Ark.; chm., Prof. E. L. Stephenson, Department of Animal Industry and Veterinary Science.

Oct. 7-9—Northeastern Poultry Producers Council Poultry Exposition and Convention; Farm Show Bldg., Harrisburg, Pa.; chm., Alfred Van Wagenen, NEPPCO, 10 Rutgers Place, Trenton 8, N.J.

Oct. 8-10—Texas Nutrition Conference; Texas Agricultural and Mechanical College; College Station, Texas; chm., J. R. Couch, Poultry Science Dept.

Oct. 14-16 — Association of American Feed Control Officials; Shoreham Hotel, Washington, D.C.; sec., L. E. Bopst, University of Maryland, College Park, Md.

Oct. 16-17 — Oklahoma Formula Feed Conference, Oklahoma State University, Stillwater, Okla.; chm., Dr. Rollin H. Thayer, Poultry Science Dept.

Oct. 20-21—California Animal Industry Conference, Fresno Memorial Auditorium, Fresno, Cal.; sponsored by University of California and California Hay, Grain & Feed Dealers Assn.; sec., John Gilmore, 1400 10th St., Sacramento, Cal.

Oct. 23-25—Nutrition Conference, Alabama Feed Assn.; Alabama Poly-

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TURKEY FOR CHILDREN — A dressed turkey destined for the Texas Elks Crippled Children's Hospital at Ottine, Texas, is being presented to the secretary of Texas Elks by John J. Bott (left), San Antonio. Mr. Bott, a representative of Philip R. Park, Inc., San Pedro, Cal., was the highest bidder for the reserve champion turkey of the junior poultry show (dressed division) of the San Antonio Livestock Exposition & Show. His bid was $50. Mr. Bott also bought 15 poultry show broilers which he donated to the hospital.

represented a decrease of almost 2% from net sales shown in the 1951 survey, the return to the owners was higher in 1956.

Other highlights of the survey are as follows:

- Gross margin averaged 15.9%, up 2.0% over the 1951 figure. However, total expense increased by 2.5% in the same period to 14.4% of net sales.
- Net profit, before federal and state income taxes, but after owners' drawings were deducted, amounted to 1.5% of net sales. This same amount represented a net profit on the owners' investment of 8.0%.
- In 1956, the owners took out 4.2% of net sales in salaries or drawings, which, together with net profits, gave them a return of $9,591 for the year. Wages of employees were the largest expense item and amounted to 4.8%. Occupancy expense (rental, or its equivalent, plus utilities) was 1.6% for the average store but it ran as high as 2.2% for the low volume operators.
- The average store spent 0.3% of its net sales for advertising but those that handled principally hay, grain, fertilizer, seed and farm tools spent 0.5% for this item of expense. Bad debt losses were 0.1% of net sales for the typical dealer and only 0.2% for stores that transacted 51% or more of their sales on credit.
- Delivery expense cost 1.0% and depreciation on equipment, other than delivery equipment, added 0.7% to total expense. Inventory turnover for all stores averaged 14.2 times per year.

The 229 concerns surveyed in this study represented all sections of the country although most of the concerns were located in the Middle West and the South. Each met the following key specifications: Each concern obtained at least 60% of its income from the sale of feeds, hay, grain, fertilizer, seed, farm tools, hardware and other farm supplies. None of them owned more than three stores. Farmer cooperatives were not included in this study.

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technic Institute, Auburn, Ala.; chm., Merlin T. Bryant, Brundidge Milling Co., North Main St., Brundidge, Ala.

Nov. 2-5 — National Renderers Assn., Hotel Statler, Washington, D.C.; sec., Miss Jamie C. Fox, 30 N. La Salle St., Chicago 2, Ill.

Nov. 12-14—Midwest Feed Production School; American Royal Bldg., Kansas City; sponsored by Midwest Feed Manufacturers Assn.; exec. vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Nov. 13-14—Cornell Nutrition Conference; Hotel Statler, Buffalo, N.Y.; chm., Prof. Charles Chance, Wing Hall, Cornell University, Ithaca, N.Y.

Nov. 14—Midwest Custom Milling School; American Royal Bldg., Kansas City; sponsored by Midwest Feed Manufacturers Assn., exec. vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

1959

Feb. 12-13 — Washington State Feed Assn.; Leopold Hotel, Bellingham; mgr., J. G. Wilson, 814 Second Ave. Bldg., Seattle, Wash.

Dun & Bradstreet Reports on Farm Store Survey

NEW YORK—Net sales of the typical farm supply store in 1956 were $168,260, according to the latest Cost of Doing Business survey prepared by Elmer T. Sivertsen of the Business Economics Division of Dun & Bradstreet, Inc., New York. Although this

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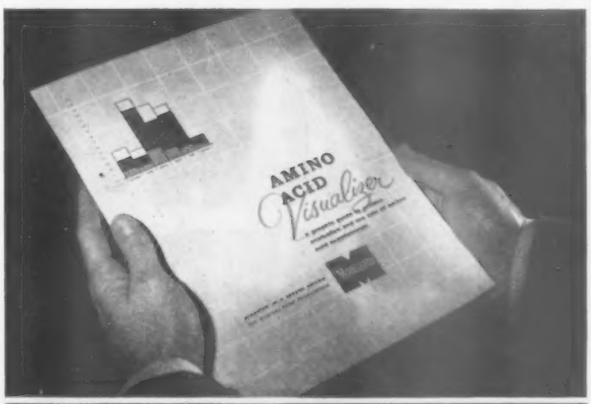

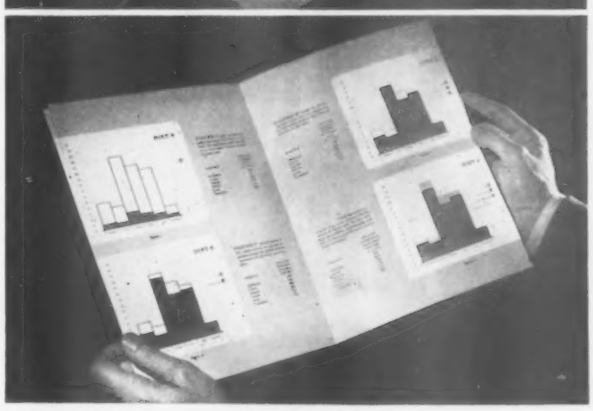

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This unusual 16-page booklet lets you *see* the amino acid contributions of major protein feedstuffs and their cumulative build-up during formulation. You see graphically how and where critical deficiencies of methionine and cystine come about . . . how you can lower your formulating costs by taking advantage of low-cost natural protein sources and supplementing with as little as 1 to 2 lbs. of MHA per ton of feed.

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Pig Anemia Talks Indicate Value Of Iron-Dextran

CHICAGO—An experimental comparison of a new injectable iron-dextran treatment for pig anemia and an older treatment, iron pills, were described at a Chicago symposium on baby pig anemia.

The symposium was sponsored jointly by the veterinary laboratories of Armour & Co., Chicago, and the National Hog Farmer newspaper, Grundy Center, Iowa. Research men, swine producers, agricultural extension workers and editors were among those attending.

Dr. Virgil Hays, Iowa State College department of animal husbandry, said pigs that received a single 2 cc. dose of injectable iron weighed one half pound more at three weeks of age than pigs that received iron pills once a week.

He also reported that in similar comparisons between injectable iron-dextran and two older preventives, sod and iron-copper paste, the injected pigs weighed six tenths of a pound more at five weeks than the pigs receiving fresh sod daily, and 1.2 lb. more than those getting iron-copper paste twice weekly.

Prevents Scours

George Patrias, director of research and nutrition for the Hubbard Milling Co., Mankato, Minn., told of tests he had conducted in which pigs injected with iron-dextran, called Armidexan, showed no evidence of scours and had gained 22% more at four weeks and 25% more at six weeks than pigs receiving dampened sod daily.

Dr. Ben Sheffy, Cornell University college of veterinary medicine, said he found that pigs injected with iron-dextran were not stunted when exposed to the transmissible gastro-enteritis organism, while iron-deficient pigs made poor growth. Pigs with normal iron stores became immune to modified cholera virus and continued to grow, whereas pigs with inadequate iron became hopelessly stunted and eventually died, according to Dr. Sheffy.

Dr. T. Stewart, Benger Laboratories, manufacturer of injectable iron-dextran which is sold in this country by Armour, revealed that 93% of this product was utilized by the pigs within 14 days of injection, whereas only 40% of other injectable compounds was absorbed within the same time period.

To prevent anemia, Dr. Stewart found that it was highly important for iron to reach the tissues almost immediately. "Many of the enzymes of the body depend on iron for efficient functioning," he said.

Time Saving

In West Virginia University field trials, described by Dr. G. C. Anderson, head of the animal husbandry department, three minutes daily were required to paint a sow's udders with an iron solution, whereas it was necessary to use the injection method, costing 25¢, only once.

Dr. Victor Perman, college of veterinary medicine, University of Minnesota, pointed out that 36 million pigs will be farrowed this spring under conditions conducive to anemia, and half of these pigs will develop some forms of this nutritional disease.

Anemia Causes

The swine grower's efforts to specialize and lower production costs have actually increased the probability of anemia, according to Dr. R. K. Jones, Purdue University college of veterinary medicine. He referred specifically to winter farrowing, confinement raising and feeding on concrete as tending to separate pigs from their natural source of anti-anemia elements in soil.

Dr. J. H. McNutt, University of Wisconsin veterinary science department, said, "Many people believed it (a drop in hemoglobin leading to anemia) was a normal process. Only recently has it been definitely established that this is abnormal." He added that "the fastest growing are most apt to be evidently affected," and that lack of oxygen resulting from decreased hemoglobin or oxygen-carrying power of the blood leads to a condition known as the "thumps."

SERVICE AWARD—Eugene M. Rich (left), Auburn, N.Y., receives the Fox Co. 15-year service award from Ralph T. Fox, Sr., president of the company, Newfield, N.J. Mr. Rich, who represents the firm in New York state, accepted the award during the company's annual banquet at the Seaview Country Club in Absecon, N.J. The banquet followed a three-day sales conference. Highlight of the conference was an address by Dr. F. W. Hill, professor of animal husbandry, Cornell University. Representatives of DuPont and American Cyanamid Co. also spoke.

TO ADD STORAGE

JOHNSON, KANSAS — Johnson Cooperative Grain Co. will build a 500,000-bu. addition to be completed by June 15. Chalmers & Borton, Hutchinson, Kansas, has the contract. The cooperative will also construct two large warehouses adjacent to the firm's elevators at Manter and Big Bow, Kansas.

2 GREAT FEEDS FROM SCHENLEY: CORN DISTILLERS DRIED GRAINS & SOLUDRI

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FEEDSTUFFS

1958 FEEDSTUFFS ANALYSIS TABLE

Copyright, 1958, by Charles H. Hubbell

This chart is published to assist feed manufacturers and students of nutrition in formulating feeds. The values given are not average, but carry a "margin of safety" so that the feed should contain at least as much protein, fat, minerals and vitamins, and not as much fiber as the final calculations show.

Protein %	Fat %	Fiber %	Calcium %	Phosphorus %	Ash %	FEEDSTUFF	Productive energy, calories per lb.	Milligrams Per Lb. Riboflavin	Niacin	Pantothenic acid	Choline	Vit. E Alpha-tocopherol	Folic acid	Amino Acids Arginine %	Lysine %	Methionine %	Cystine %	Tryptophane %	Glycine %
20	2.5	18.0	1.70	.30	12.0	Alfalfa leaf meal (dehy.)	350	8.00	20.0	17.0	500	...	...	.9	.90	.45	.35	.35	...
20	2.5	18.0	1.70	.22	12.0	Alfalfa leaf meal (suncured)	350	7.00	19.0	16.0	500	...	...	.9	.90	.45	.35	.35	...
17	2.0	25.0	1.50	.20	11.0	Alfalfa meal (dehydrated)	300	7.00	14.0	14.0	400	85	3.6	.8	.80	.40	.30	.30	...
15	1.5	30.0	1.40	.20	9.2	Alfalfa meal (dehydrated)	240	7.00	12.0	12.0	400	...	...	.7	.70	.35	.27	.27	...
13	1.5	33.0	1.20	.20	9.0	Alfalfa meal (either type)	230	5.00	9.0	10.0	300	...	...	...	...	...	...	...	...
11.5	2.0	6.0	0.5	.30	3.0	Barley	800	0.70	24.0	3.0	450	2.3	.3	.6	.20	.20	.20	.16	...
9	2.0	6.0	0.6	.30	2.5	Barley (Pacific Coast)	800	0.50	20.0	3.0	400	...	...	.48	.15	.15	.15	.12	...
20	1.0	4.0	.10	.40	6.0	Beans (navy cull)	450	1.00	12.0	.5	...	...	...	...	...	...	...	...	...
8	0.5	21.0	.60	.05	3.8	Beet pulp, dried	200	0.30	6.0	.5	370	...	...	.3	.6	0.0	...	.10	...
80	1.0	1.0	.28	.28	6.0	Blood meal	1,010	.70	14.0	.5	300	...	...	3.5	.69	1.00	1.50	1.10	4.5
24	6.0	15.0	.20	.45	3.8	Brewers dried grains	1,000	0.30	18.0	3.9	700	...	.10	1.3	.90	.28	.48	.30	...
45	1.0	2.7	.10	1.40	7.0	Brewers dried yeast	700	15.0	203.0	50.0	1,750	...	4.4	2.2	3.00	1.00	.50	.81	1.7
11	2.0	10.0	.04	.30	2.0	Buckwheat	820	0.20	20.0	5.0	...	...	...	1.13	.66	.22	...	.20	...
32	5.0	0.0	1.30	.90	10.0	Buttermilk, dried	780	12.00	7.5	19.0	500	...	.18	1.0	2.20	.67	.37	.41	...
6	3.0	14.0	2.00	.10	7.0	Citrus Pulp, dried	420	1.00	9.0	5.2	310	...	...	.28	.20	.08	...	.06	...
20	6.0	12.0	.17	.60	7.0	Coconut oil meal	600	.60	13.0	3.0	500	...	.35	2.2	.50	.30	...	.2	...
8.3	3.8	2.5	.01	.25	1.5	Corn (yellow)	1,145	.50	9.8	2.4	200	1.7	.1	.4	.20	.20	.15	.07	.30
7.0	3.0	8.0	.01	.25	1.4	Corn & cob meal (yellow)	900	.40	7.2	2.0	160	...	...	.3	.16	.16	.12	.05	.24
2.3	1.0	30.0	...	...	1.5	Corn cobs	...	...	...	...	...	...	...	...	...	...	...	...	...
20.0	5.5	10.0	.05	.40	3.0	Corn germ meal	1,100	1.40	15.0	2.3	800	...	.1	1.1	.9	.40	.32	.26	1.1
21	1.5	10.0	.30	.70	8.5	Corn gluten feed	590	1.1	30.0	5.8	500	...	.12	.8	.73	.30	.37	.20	...
41	1.5	4.5	.10	.40	4.5	Corn gluten meal	840	0.70	20.0	4.5	150	...	.1	1.4	.80	1.00	.68	.21	1.5
20.0	1.0	11.5	.08	.40	2.5	Corn oil meal (solvent)	840	2.00	19.0	1.5	800	.44	.27	1.1	.9	.40	.32	.26	1.1
36	4.0	16.0	.15	1.00	7.0	Cottonseed oil meal	580	1.40	15.0	4.7	1,200	...	...	2.7	1.4	.54	.90	.45	2.1
41	4.0	13.0	.15	1.00	7.0	Cottonseed oil meal	690	1.80	17.0	6.5	1,200	3.2	1.0	3.0	1.6	.60	1.0	.50	2.4
41	1.5	13.0	.15	1.25	7.0	Cottonseed oil meal (solv.)	560	2.00	20.0	6.5	1,200	...	.32	3.0	1.6	.60	1.0	.50	2.4
27	8.0	13.0	.09	.35	3.2	Dist. dr. grains (light) (corn)	880	1.5	19.0	3.0	900	...	.40	1.0	.90	.40	.18	.20	.1
27	8.0	9.0	.12	.68	5.0	Dist. dr. gr., with sol. (corn)	890	4.0	35.0	5.0	1,200	7.0	.5	.9	.7	.50	.35	.20	.5
27	8.0	4.0	.35	1.37	8.2	Distillers dr. solubles (corn)	1,020	8.0	54.0	10.0	2,200	7.0	.5	1.0	.9	.60	.60	.20	1.1
85.0	3.0	1.0	...	...	3.9	Feathers (hydrolyzed poultry)	800	.8	8.0	3.5	400	...	...	5.6	1.5	.52	2.3	.57	6.0
70	7.5	1.0	3.00	2.20	12.0	Fish meal, herring	1,030	4.00	40.0	5.0	1,800	...	1.0	4.0	7.30	2.00	1.10	.91	5.5
60	7.5	1.0	5.00	3.00	20.0	Fish meal, menhaden	920	2.00	25.0	4.0	1,500	9.5	...	4.0	5.30	1.80	.63	.69	4.0
57	8.0	1.0	7.70	3.80	26.0	Fishmeal, red fish	866	3.00	18.5	3.0	1,400	...	.12	4.0	6.5	1.73	.59	.60	3.7
65	4.0	1.0	4.5	2.5	19.0	Fish meal, sardine	900	2.50	30.0	3.0	1,300	...	...	2.7	5.9	2.00	.80	.50	4.5
63	2.0	1.0	6.50	3.50	22.0	Fish meal, white	825	4.00	30.0	3.0	700	...	...	4.2	4.3	1.65	...	.64	...
32	4.0	0.0	.10	.5	10.0	Fish solubles, 50% solids	440	6.00	100.0	16.0	1,300	...	.08	1.5	1.7	.60	.21	.12	1.5
10	5.0	6.0	.02	.50	3.0	Hominy Feed (yellow)	850	1.00	20.0	4.5	460	...	.13	.5	.4	.28	.13	.29	...
11	2.5	2.5	.02	.30	1.7	Kafir corn	1,080	.50	18.0	5.0	200	...	...	.44	.25	.21	...	.15	...
34	3.5	8.5	.40	.80	6.0	Linseed meal (old process)	500	1.60	18.0	6.0	800	...	1.20	2.7	1.3	.84	.66	.56	...
34	0.5	9.0	.35	.75	6.0	Linseed oil meal (solvent)	480	1.30	20.0	6.4	800	...	...	2.7	1.3	.84	.66	.56	...
24	1.5	15.0	.20	.70	7.0	Malt sprouts, dried	...	2.30	26.0	20.0	1,000	...	3.7	1.0	1.1	.32	...	.41	...
45	9.0	2.5	11.00	5.50	35.0	Meat and bone scraps	660	1.4	20.0	1.7	600	...	...	2.7	2.2	.70	.30	.27	...
50	9.0	2.5	10.00	5.00	29.0	Meat and bone scraps	720	1.5	21.0	1.8	750	...	...	3.0	2.5	.72	.35	.55	7.0
55	9.0	2.5	8.00	4.00	21.0	Meat scraps	760	1.6	23.0	2.0	850	...	...	3.9	3.4	.80	.41	.61	2.2
11	2.5	2.5	.02	.33	2.5	Milo maize	1,110	0.40	13.0	4.0	220	...	...	.34	.25	.15	.20	.08	.4
6.0	0.0	0.0	.10	.02	10.0	Molasses, beet	...	1.00	17.0	2.0	...	...	...	...	...	...	...	...	...
3	0.0	0.0	.50	.05	11.0	Molasses, cane	715	1.00	20.0	17.0	300	...	...	...	...	...	...	...	...
0.3	0.0	0.0	.50	.05	8.0	Molasses, corn (hydrol)	...	...	...	...	...	...	...	...	...	...	...	...	...
12	3.50	12.0	.10	.36	3.5	Oats	760	0.40	5.0	3.5	425	1.8	.1	.60	.40	.25	.22	.14	...
9	4.5	12.0	.10	.35	3.5	Oats (Pacific Coast)	800	...	...	...	...	...	...	.50	.30	.19	.17	.10	...
15.5	5.5	2.5	.05	.45	2.2	Oats, feed, rolled, oat groats	1,150	0.50	3.7	5.6	550	...	.27	.72	.50	.30	.25	.17	...
2	.5	36.5	.09	.10	6.5	Oat hulls	0.0	...	...	...	...	...	...	...	...	...	...	...	...
3.5	1.0	34.0	.25	.20	6.0	Oat, mill by-product	...	0.72	4.6	1.5	200	...	...	.2	.20	.10	...	.10	...
45	5.5	11.0	.17	.55	5.8	Peanut oil meal (expeller)	850	2.40	77.5	24.0	800	...	...	5.3	1.30	.44	.70	.48	2.3
47	1.0	13	.20	.60	4.8	Peanut oil meal (solvent)	760	2.40	77.5	24.0	800	...	...	5.7	1.40	.47	.74	.53	2.6
56.0	14.0	2.0	3.5	1.7	17.5	Poultry by-product meal	900	4.8	18.0	4.0	2,720	...	...	2.76	3.7	1.00	1.00	.41	7.0
14	.6	15.5	.10	1.35	16.0	Rice bran (solvent)	710	1.40	129.0	10.5	...	...	...	.5	.5	.24	.10	.24	...
11	12.0	4.0	.04	1.40	8.0	Rice polishings	930	0.90	325.0	4.5	460	...	...	.50	.50	.21	.10	.19	...
12	1.7	2.5	.01	.30	2.0	Rye	880	0.70	7.0	4.0	...	7.5	...	.6	.45	.18	...	.14	...
40	7.0	6.5	2.00	1.30	12.0	Sesame oil meal	700	1.50	6.0	2.5	680	...	...	4.0	1.2	1.44	.59	.80	4.0
43	3.0	12.0	7.00	1.50	28.0	Shrimp meal	400	1.80	...	...	2,000	...	...	2.25	2.02	.72	...	.39	...
34	.5	0.0	1.25	1.00	8.0	Skim milk, dried	600	9.00	5.0	15.0	500	.17	.30	1.2	2.8	.81	.42	.45	.2
24.0	3.5	9.0	.15	.65	8.0	Sorghum gluten feed	...	1.30	24.0	8.0	790	...	...	1.0	.9	.30	...	.20	...
42.0	4.3	3.5	.04	.30	1.8	Sorghum gluten meal	...	.70	15.0	4.0	300	...	...	1.2	.8	.60	...	.40	...
37	19.0	4.5	.25	.60	4.5	Soybeans	1,025	1.20	10.0	5.0	1,300	...	...	2.1	2.1	.60	.48	.42	1.9
42	3.5	6.0	.20	.60	5.5	Soybean oil meal (expeller)	640	1.40	12.0	6.0	1,100	2.5	2.18	2.7	2.6	.74	.60	.50	2.3
44	.5	7.0	.25	.65	5.5	Soybean oil meal (solvent)	570	1.30	12.0	6.0	1,200	.36	1.77	2.8	2.7	.79	.62	.53	2.4
51	.5	3.0	.20	.60	5.5	Soy meal (solv.) (dehulled)	650	1.2	9.5	6.0	1,300	.36	1.85	3.1	3.0	.87	.68	.58	2.7
60	8.0	3.0	6.00	3.00	22.5	Tankage	800	1.00	18.0	1.0	1,000	...	.70	3.0	3.5	.71	.29	.82	6.6
48.0	2.0	2.7	.50	1.60	8.0	Torula dried yeast	700	20.0	220.0	24.0	1,300	...	10.0	2.6	3.8	.80	.60	.50	2.7
15.0	1.8	3.0	.05	.40	2.0	Wheat, hard	1,020	0.55	24.0	4.5	350	6.4	.2	.81	.4	.21	.26	.24	...
11.0	1.8	3.0	.05	.40	2.0	Wheat, soft western	1,000	0.53	26.0	4.5	300	...	...	.55	.32	.17	.19	.18	...
15	3.5	11.0	.10	1.20	6.5	Wheat bran	480	1.00	65.0	12.0	460	2.7	1.0	1.0	.6	.18	.19	.20	.90
17	3.5	6.0	.05	.70	4.0	Wh. flour midds., gray shorts	720	0.60	40.0	7.0	450	8.4	.4	.7	.4	.3	.20	.23	...
26	8.0	3.0	.01	1.00	5.0	Wheat germ meal	780	2.20	23.5	5.0	1,500	56	.1	1.6	1.6	.30	.50	.30	...
15	3.5	9.0	.10	.90	5.0	Wheat mixed feed	570	0.70	50.0	6.0	450	...	...	...	...	...	...	...	...
16	3.5	3.0	.10	.50	3.5	Wheat red dog	1,000	0.45	25.0	6.0	450	...	...	1.0	.6	.10	...	.20	...
16	4.0	8.0	.10	.90	5.5	Wh. std. midds., brown shorts	520	0.80	44.0	8.0	460	8.4	.4	.9	.7	.25	.19	.21	.40
14	2.0	2.0	.05	.50	3.0	Wheat flour second clears	1,000	0.45	25.0	6.0	450	...	...	.4	.3	.10	...	.10	...
12	.5	0.0	.80	.70	10.0	Whey, dried whole cheese	700	12.00	5.0	20.0	900	.11	.4	.4	1.00	.35	.40	.30	.70

ANALYSIS OF MINERALS—Use the figures guaranteed by the manufacturer. (Calculate ash as 100%.)

	Calcium, %	Phosphorus, %		Calcium, %	Phosphorus, %		Calcium, %	Phosphorus, %
Bone meal, steamed	24	12.0	Defluorinated rock phosphate	34	14.5	Curacao Island phosphate	35	15.0
Bone meal, special steamed	26	13.0	Defluorinated treble phosphate	30	18.0	Dicalcium phosphate	26	18.0
Defluor. super phosphate	31	13.0	Phosphate with colloidal clay	18	9.0	Limestone, 98% calc. carb. and oyster shell flour	38	00.00

Notes on the Feedstuffs Analysis Table

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List of Ingredients

The Feedstuffs Analysis Table is published annually to provide a convenient summary of the latest information on the analysis of the most commonly used feed ingredients. Only about one third of the ingredients available for formulation of feeds are listed here because of space limitations. Suppliers of ingredients not listed in this table will be happy to furnish the analysis of their products.

The analyses shown here are intended to be representative of the feedstuffs shown and do not necessarily apply to each manufacturer's production. Use the manufacturer's guarantees where they differ from those on the table.

Feed Formulation

Before one attempts to formulate feeds, he should study the nutritive requirements of the animals. Pamphlets showing the nutritive requirements for poultry and livestock may be obtained by writing the National Research Council, 2101 Constitution Ave., N. W., Washington, D.C.

Be sure in your formulation you make allowances for feeds that are to be fed with grain, for destruction of vitamins in storage, and for other factors which may affect the feed before it is consumed.

Productive Energy

This column gives productive energy values for poultry. Energy values for swine, cattle or other animals will be quite different and this table should not be used for calculating the energy values of other feeds.

Alfalfa

Where dehydrated alfalfa meal has been used to supply a major portion of the vitamin A activity through its carotene content, it is important to know how much carotene is being supplied. A laboratory analysis should be made at the time the alfalfa is to be used.

Vitamin A—Carotene

The approximate carotene content of commonly used feed ingredients is given. For convenience in formulating poultry feeds you may use the figures shown under Vitamin A to calculate the vitamin A activity obtained from the carotene. Values of vitamin A for 4-footed animals will generally run about 40% of the amount shown under vitamin A.

	Per pound—Mg. carotene	Vitamin A
Dehydrated alfalfa		
20% (150,000 A guar.)	90	150,000
17% (100,000 A guar.)	60	100,000
17% (not guar.)	30	50,000
15% (not guar.)	20	33,000
13% (not guar.)	6	10,000
Yellow corn (current crop)	.9	1,500
Corn gluten feed	1.2	2,000
Corn gluten meal	2.4	4,000
Hominy feed	.6	1,000

Corn, corn gluten feed, meal and hominy will contain more carotene than shown in the table above, but much of this carotene is in the form of carotenoids with little vitamin A activity.

Vitamin B_{12}

The range of active vitamin B_{12} present in natural feedstuffs is quite wide, and it is felt that it may be unwise to count too heavily on B_{12} contributions from natural feedstuffs unless the natural feedstuffs are guaranteed to furnish B_{12}. Feedstuffs in the table which contain appreciable vitamin B_{12} are shown below.

Feedstuff	Range of B_{12} activity
Feather meal	.03-.05 milligrams/lb.
Fish meal	.03-.15 milligrams/lb.
Fish solubles	.05-.28 milligrams/lb.
Meat and bone scraps	.01-.05 milligrams/lb.
Meat scraps	.01-.10 milligrams/lb.
Poultry by-product meal	.15-.18 milligrams/lb.
Tankage	.02-.10 milligrams/lb.

Fats in Feeds

Many feed manufacturers wish to use fat in feeds. For poultry feeds figure the fat as 100% and the productive energy content as 2,875 calories per pound. Some fats may run higher or lower than this in productive energy, but this figure is generally safe to use for the average kinds of fats now used in feeds.

Be sure fats are stabilized.

Conversion Tables

Units or mgm. per gram	Units or mgm. per lb.
50	22,700
100	45,400
200	90,800
300	136,200
400	181,600
500	227,000
1,000	454,000

1 pound =454 grams
1 ounce=28.4 grams
1 gram=1,000 milligrams

1 milligram=1,000 micrograms, also called gammas (γ).

1 microgram per gram=1 part per million

.3 microgram of vitamin A=1 unit of vitamin A.

To convert milligrams per gram to milligrams per pound, multiply by 454.

To convert micrograms per gram or per pound to milligrams per gram or per pound, divide by 1,000.

To convert milligrams per pound to micrograms per gram or parts per million, divide by .454 or multiply by 2.2.

Vitamins D_2 and D_3

Irradiated yeast or plant sterols provide Vitamin D_2 which is excellent for 4-footed animals but not suitable for poultry.

Vitamin D from irradiated animal sterols (D-activated animal sterol) or that from fish liver oils provides vitamin D_3 which is suitable for both poultry and 4-footed animals.

Vitamin E

Figures shown in the vitamin E column are in milligrams of alpha-tocopherol per pound of ingredient. For conversion to International units, assume 1 mgm. equals 1 International Unit of vitamin E. During this past year research work has shown that in some ingredients, the alpha-tocopherol naturally present does not seem to be biologically available. Hence, where vitamin E is a critical factor, such as in turkey breeder rations, one should give consideration to the sources of vitamin E and provide ample quantities.

Amino Acids

The old saying that "a chain is no stronger than its weakest link" certainly applies to the amino acid balance in feeds for poultry and swine. The amino acids which are most likely to limit the performance of feeds are shown in the Feedstuffs Analysis Table. Be sure you have enough of these amino acids in your feed for maximum efficiency.

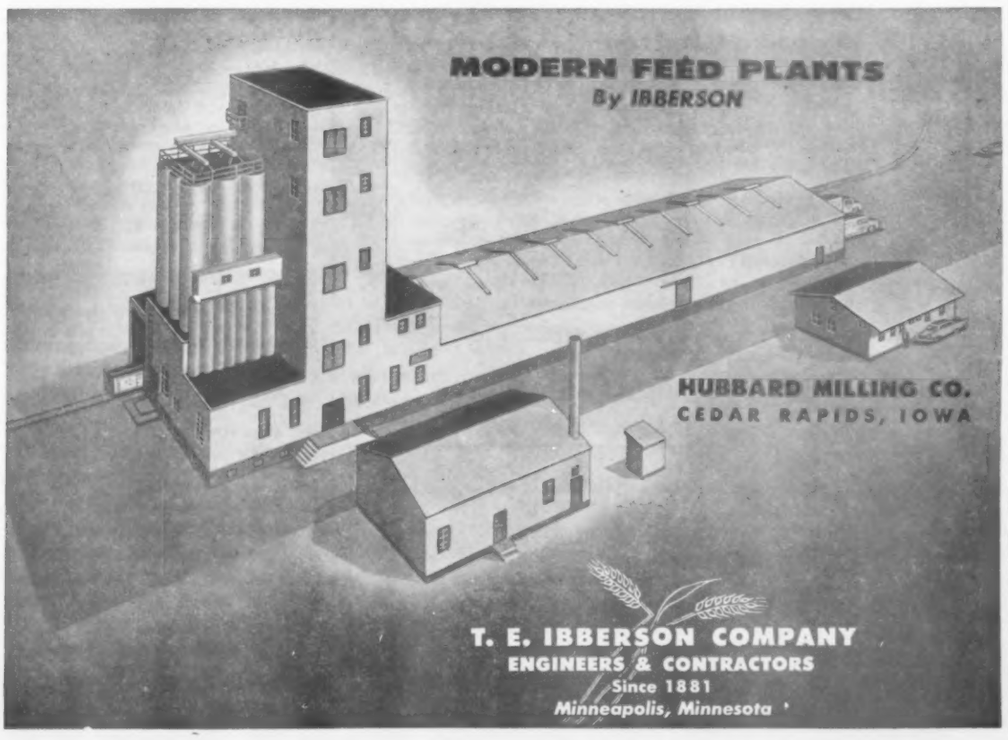
Data on the amino acid content of some feedstuffs is lacking in many cases, and conflicting in other cases. An attempt has been made in this table to provide values which you may safely use in figuring amino acid calculations, but no margin of safety is figured for amino acids as has been provided for in the rest of the Feedstuffs Analysis Table.

Acknowledgement

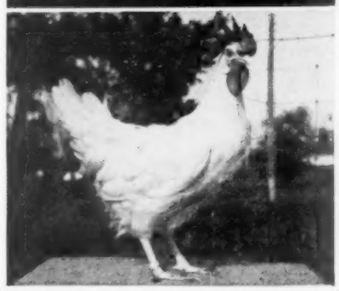
Data for the preparation of the Feedstuffs Analysis Table have been received from many laboratories throughout the country. To the chemists and research workers who have so graciously cooperated in supplying this information, we wish to express our sincere gratitude and thanks.

RENTS FEED MILL

NEW AUBURN, MINN. — Omar Templin, Glencoe, Minn., has rented the New Auburn Feed Mill from Lester Darrow.



SPEED TO BURN



THE high rate-of-lay in TRUE-LINES, fewer days of skip or pause, is the product of 31 years research. An entire entry of TRUE-LINES, in 1957 Hunterdon, N. J. test, averaged 277 eggs, 294 points per hen. This was 37.4 more eggs per hen than the average production for U. S. breeders in all 1957 Standard tests. TRUE-LINES entry was commercial grade chicks of exactly same quality delivered to our customers. Performance-checked by multiple-location trapnesting and progeny testing. They hit 50% production at 160-170 days; peak at 90% to 95%; average 80% to 85% month after month. And priced to save money . . . up to 25%.

Colonial TRUE LINES®

Write To True-Lines Associate Hatchery Nearest You For Information

EAST

ALBERMARLE ACRES, Unadilla, N. Y.
CAMERON HATCHERY, Beaver Springs, Pa.
BLUE RIBBON HATCHERY, Celina, Ohio
INDIAN HEAD FARM, Toms River, N. J.
KEMNITZER HATCHY, Marysville, Ohio
LANCASTER CTY. FARMS, Ephrata, Pa.
ORCHARD HILL HATCHERY, Mogadore, Ohio

MIDWEST

ABC HATCHERY, Garden City, Mo.
ART'S HATCHERY, Valley Park, Mo.
BOOTH FARMS & HATCHY, Clinton, Mo.
CEDAR RAPIDS HATCHY, Cedar Rapids, Ia.
COLONIAL PLTY FARMS, Faribault, Minn.
COLONIAL PLTY FARMS, Lexington, Nebr.
COLONIAL PLTY FARMS, Pleasant Hill, Mo.
COLUMBIA CITY HATCHY, Columbia City, Ind.
DeFOREST HATCHERY, Eagle Grove, Ia.
FLOYD HATCHY & PROD., Alton, Iowa
GIBSON QUALITY HATCHERIES, Lexington, Mo.
GOLDFIELD HATCHERY, Goldfield, Ia.
GREAT PLAINS HATCHYS, Effingham, Ill.
HAPPINEST HATCHERY & EGG FARM, North Manchester, Indiana
HOFFMAN'S HATCHERY, Shawano, Wisc.
MALLORY HATCHERY, Hutchinson, Kan.
MID-STATES HATCHERY, Adrian, Mo.
MOORE'S HATCHERY, Ionia, Mo.
MOSER HATCHERY, Versailles, Mo.
NOLD HATCHERY, Montrose, Mo.
NORTHLAND FARM, Zeeland, Mich.
PETERSON HATCHERY, Peterson, Ia.
RELIANCE HATCHERY, Cameron, Mo.
REMPEL HATCHERY, Butterfield, Minn.
STANDARD HATCHERY, Terre Haute, Ind.
SUNNYDALE FARMS, Mendon, Mo.
SUPERIOR HATCHERY, Windsor, Mo.
THOMAS HATCHERY, Perryville, Mo.
WALT NEUBERT HATCHYS, Le Sueur, Minn.
WARD BOWEN CHICK'Y, Union Star, Mo.
WHEELER HATCHERY, Norborne, Mo.
WIENKE HATCHERY, Homer, Illinois
WILLCOX HATCHERY, Kingman, Kansas

SOUTH

COLONIAL PLTY FARMS, Cullman, Ala.
COLONIAL PLTY FARMS, Sweetwater, Tex.
GREAT PLAINS HATCHERY, Fulton, Miss.
LEGHORN LAND FARM, Floresville, Tex.
OGLETREE HATCHERY, Lawrenceville, Ga.
ROY D. COUCH HATCHERY, Fayette, Ala.
SANITARY HATCHERY, Weimar, Texas
WALLER HATCHERY, Waller, Tex.

WEST

COLONIAL PLTY FARMS, Lamar, Colo.
EGGIMAN HATCHERY, Beaverton, Ore.
MOUNTAIN STATE HATCHERY, Lamar, Colo.
SAN JOSE HATCHERY, San Jose, Calif.
PENNGROVE HATCHERY, Petaluma, Calif.

FOREIGN COUNTRIES

GHEKIERE HATCHERY, St. Elools-Winkel, Belgium
JANZ HATCHERY, Steinbach, Manitoba, Canada
COLONIAL de MEXICO, Ciudad Lerdo, Dgo., Mexico

Colonial POULTRY FARMS
PLEASANT HILL, MO.

Custom Milling—III

Grinding and Mixing Charges

By Al P. Nelson
Feedstuffs Special Writer

EDITOR'S NOTE: This is the third of a series of five articles dealing with operations of custom feed mills. The author has recently made an extensive survey, visiting numerous mills in a midwestern area. In these articles, he is reporting and commenting on such things as mill modernization, charges for services, records, personnel, promotion, equipment layout and other aspects of custom mill operations. The accompanying article deals with grinding and mixing charges.

What should a custom mill owner charge for grinding and mixing per cwt.?

This is a problem that perplexes many a feed man, especially the man who has invested $20,000, $30,000 or more in new equipment and other facilities. He wants to make enough from his grinding and mixing operations so that he can warrant this expansion move. On the other hand he must be guided by what his competition is charging.

On my recent custom mill survey, I got this reply from a miller: "I sat in on a panel discussion at a custom mill meeting staged by a manufacturer," he said, "and the matter of rates came up. From the answers given I discovered that some millers charged as much as 35¢ per cwt. for grinding and mixing combined, and others charged as low as 5¢ per cwt. for grinding and mixing. I charge 15¢ for both, but I wish I could charge more. Competition won't let me."

I met one miller who had gone into business for himself after working 10 years for a cooperative. He established a new custom mill, stretched his finances, he said, to do it, but was doing fine, and had all the grinding and mixing business he could handle at the moment. "I charge 10¢ per cwt. for grinding hog and chicken feed," he said, "and 7¢ for cow feed. That includes mixing. I charge 14¢ for grinding cob corn with the same screen as I use for hog and chicken feed. I get 10¢ for shelling corn and 15¢ for a bale of hay."

"You're a little lower on some of your prices than others I have visited," I said.

"I have to be," he replied. "My competitors have been using those prices for a long time. Since I started new, I had to win new customers. I did it, too, on those prices. I figure I'm breaking even on grinding and mixing. No profit, except when I sell concentrates, etc."

Good Management

Now whether a miller makes profit on his grinding and mixing as such is certainly going to depend largely on how much he charges for the operations. It is unlikely that if a miller grinds and mixes for 10¢ per cwt., he is going to make enough profit to take him and his family to Florida for a three-week winter vacation. In fact, he may or may not break even on that price. When he gets up to 15¢ per cwt. for combined operations, he may begin to see daylight, and even make a profit, millers tell me. But good management has got to go along with it. That is where new, high speed machinery comes in. You've got to get volume, too.

The miller whose grinding and mixing income jumped from $350 to $850 per month—referred to in a previous article—gets 15¢ for grinding chicken and hog feed and 10¢ for dairy and steer feed, with an extra 5¢ cwt. for mixing. If farmers bring in their own materials to be mixed—and a few do—he charges them 10¢ for the mixing.

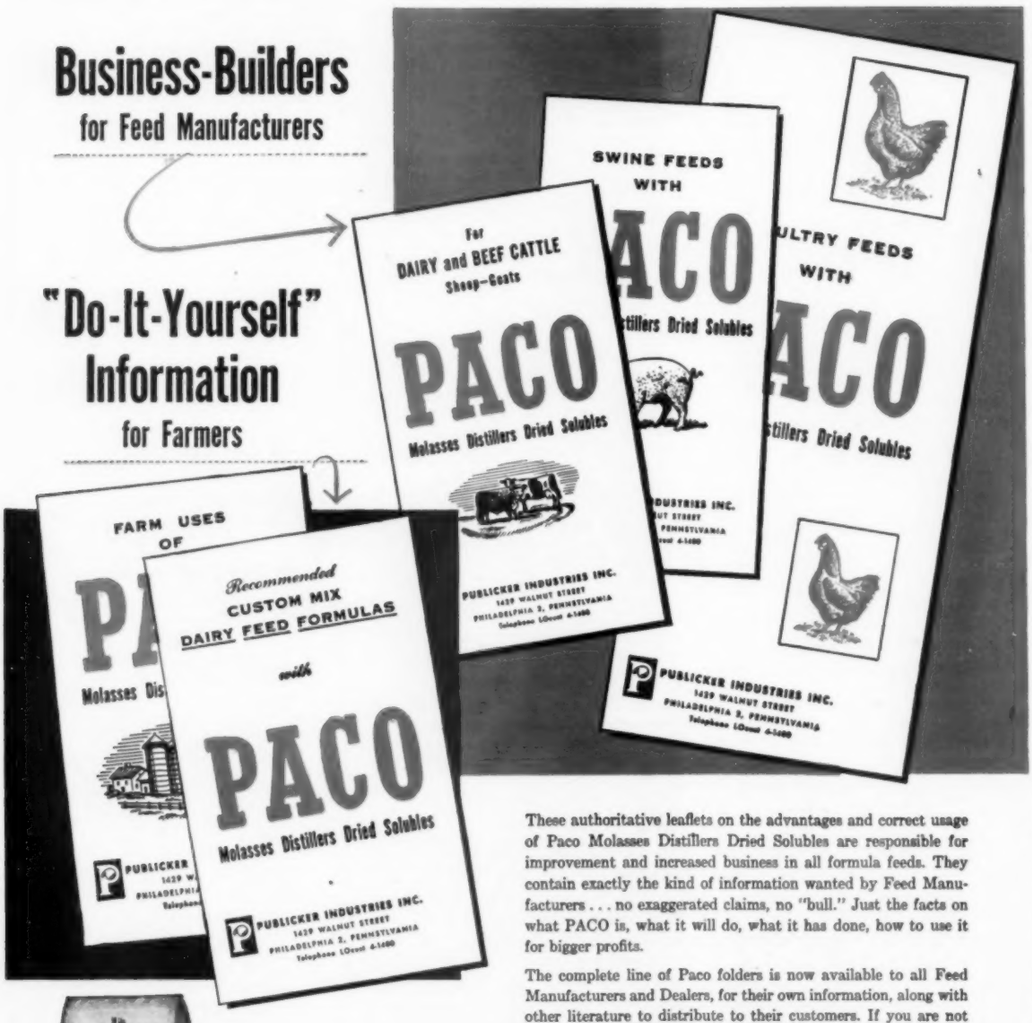
He says that his average grinding and mixing charges per ton run about $3.50. Mobile feed mills in his area are charging about $4.50 per batch, which is slightly over a ton.

One Iowa cooperative association charges patrons only on the basis of grain weighed before it goes to the mill. There is no charge made for mixing of the concentrates, according to weight. The patron pays only grinding and mixing on his weights of grain delivered to the mill. This cooperative charges 10¢ cwt. for fine grinding, 7¢ for coarse and 3¢ for mixing. Shelling of corn is done at 5¢, and grinding of hay is at 10¢ per bale. The mill is grinding and mixing about 9,000 tons of feed annually in a brand new mill. This is twice the volume they were doing when they had older equipment.

"I can't say exactly how many men we use in the mixing department," said the manager. "We employ

Business-Builders
for Feed Manufacturers

"Do-It-Yourself" Information
for Farmers



ALSO AVAILABLE IN 50-LB. BAGS
Here is the ideal, fast-selling package for direct sales to farmers and cattlemen.

These authoritative leaflets on the advantages and correct usage of Paco Molasses Distillers Dried Solubles are responsible for improvement and increased business in all formula feeds. They contain exactly the kind of information wanted by Feed Manufacturers . . . no exaggerated claims, no "bull." Just the facts on what PACO is, what it will do, what it has done, how to use it for bigger profits.

The complete line of Paco folders is now available to all Feed Manufacturers and Dealers, for their own information, along with other literature to distribute to their customers. If you are not acquainted with PACO and its many advantages as a fortifier and "freshener" for all types of feeds, we will be pleased to send by return mail the data you check on coupon below.

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MIDWEST SALES AGENT—Publicker Alcohol & Chemical Sales Corporation, 101 Arsenal St., St. Louis, Missouri. Telephone: PRospect 6-0858

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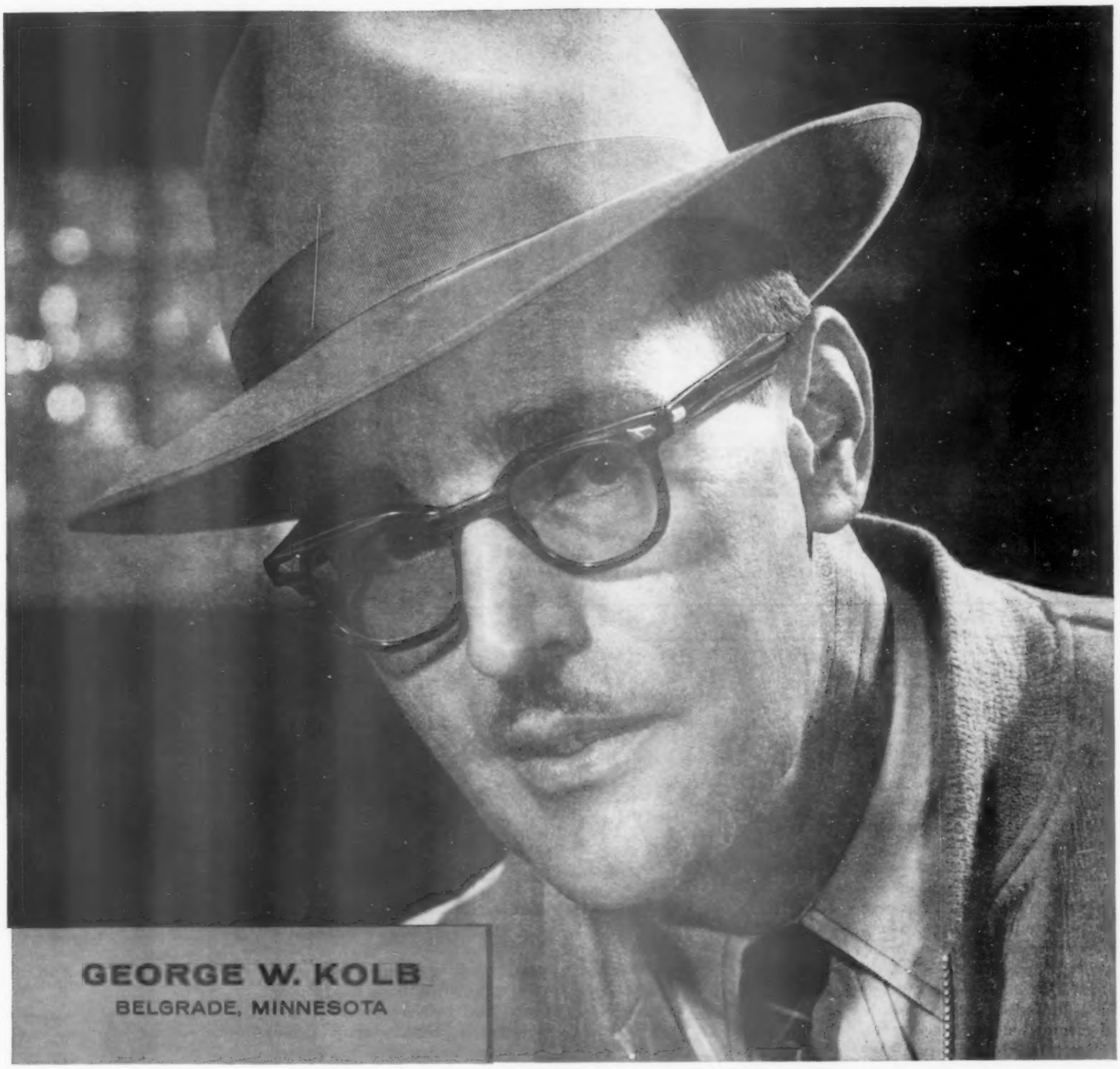
WRITE for brochure, research data, sample & price

Soft Phosphate

Soft Phosphate Inc., Box 31, Media, Pa.



"We sell 180 tons of Morton Trace-Mineralized Salt a year"

You, and every salt dealer, would like to sell *that much* Morton T-M Salt because each ton sold is more profitable in two ways. First, Morton T-M earns you a better profit than plain salt . . . and secondly, when your customers use T-M Salt in their feeding program they usually become better customers for *all* the feeds they buy from you.

Mr. Kolb's growing volume of T-M sales is an excellent example of what can be done. So, with the thought of passing along sales tips to other dealers, we visited Mr. Kolb and asked him if he would tell us just what he does to build Morton T-M Salt business. Here is his answer: "We have experienced a steady and sizable increase in the sale of Morton T-M in the years we have handled it. We believe in T-M and know that it definitely has a place in *every farmer's* feeding program. Morton T-M is easy to sell because the farmers ask for it by name.

"We work at selling T-M by promoting the product at county fairs, farmers' meetings, veteran and high school agricultural classes, etc. We use Morton T-M in our feeds and sell it to our trade. That's the best recommendation we can give the product."

Sell more Morton T-M for extra profit. If you already handle Morton T-M Salt you can increase your business and your profit by following Mr. Kolb's example. If you don't handle T-M but would like to, just write Morton Salt Company, Chicago, Illinois.

BACKED BY STRONG ADVERTISING

As a Morton dealer, your T-M sales effort is backed by consistent, down-to-earth advertising in leading farm and ranch publications. Radio sales messages also tell farmers and ranchers everywhere the benefits of using T-M Salt. Listen to the Alex Dreier radio show, "Topic for Today," every Saturday immediately following the "Farm and Home Hour."

MORTON T-M SALT

NEW HORIZONS—Members of the Midwest Feed Manufacturers Assn. sat in on a press conference conducted during the association's convention on the subject, "New Horizons in Feed and Feeding." In the picture at the left, Dr. J. L. Krider, McMillen Feed Mills, chairman for the session, is shown at the rostrum. With him are three news representatives who led the questioning of feed ingredient suppliers about their products. They are, left to right, Wilbur Levering, farm director of a Topeka, Kansas, radio station; Rod Turnbull, Weekly Star Farmer, Kansas City, and George Stevens, KCMO farm director, Kansas City. Tape recordings and movies were made of the session, as shown at the right. On the platform are college nutritionists who made reports and answered questions from the press.

SW

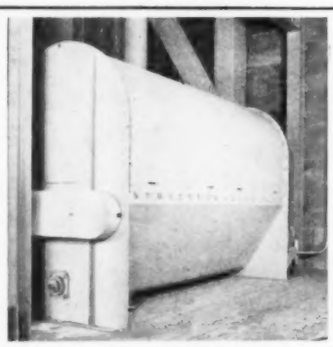
SPROUT-WALDRON *Pointers*

for Mixing and Blending • Size Reduction
Size Classification • Bulk Materials Handling • Pelleting and Densifying

Published in the interest of better processing by Sprout, Waldron & Co., Inc., Muncy, Penna.

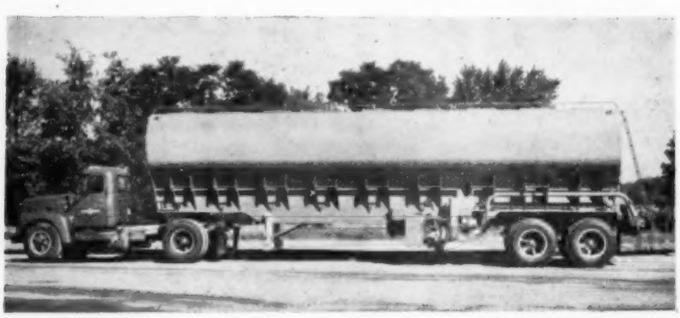
PUSH BUTTON MILL IN HIGH GEAR

The ultramodern pushbutton panel controlled feed mill which Murray's Feed Service of Frankfort, Delaware built among the charred ruins of their original operations is a thing of beauty. The four story mill building has 4000 sq. ft. of first floor area exclusive of the warehouse. All feed component storage, including premixes, is held in elevated steel tanks with capacities approximating 700 tons. Mixing is by batch continuous system controlled through a specially designed manually operated panel. Feed transfer to the dial type hopper scale, complete inventory recording, discharge from the scale to the two ton Sprout-Waldron mixer, the mixing cycle as well as distribution of the finished feed formulas to the various holding bins is all actuated from this same panel. Pelleting is accomplished by two 100 HP Sprout-Waldron Ace Pelleters. Since delivery is largely in bulk, a complete pneumatic handling system is tied to a fleet of Sprout-Waldron Feed Piper Bulk Feed Delivery Trucks to assure fast, accurate handling. Consistent production of 30 to 35 tons per hour is standard in this Sprout-Waldron designed and equipped modern feed mill.



Trunion driven feed scalping reel.

Batching and distribution control panel.



. . . not a complaint in a Feed Piper Carload

One of our representatives stopped in to see a customer in Indiana who had been operating a Feed Piper bulk truck for five months. Since it was a new piece of equipment and the customer had never used air handling before, he expected to be helpful in answering questions. "Not a bit of trouble," said the manager. To top it all off when the driver came in he was asked the same question. Like the manager, he commented: "She works fine. On three different occasions, I timed my delivery and was able to deliver six tons in 13 minutes."

SW

Air Conveying Aids Mixing

The question has often been raised as to the effect of air conveying on mixtures. Companies handling such items as seeds, feeds and various chemical products have wondered whether or not the air flow might cause segregation or separation of the ingredients. Just the reverse is true.

The conveying velocity in S-W Pneu-Vac systems is in excess of 5000 feet per minute, which is turbulent flow. Just as turbulent flow aids mixing in a liquid system, it aids mixing in an air handling system. The only separation which might occur would be at the discharge spout . . . and this would be due to gravity as it fell into the bin. This same possibility of separation due to gravity would also occur from screw conveyors, bucket elevators or any type of mechanical conveying system.

FP/102

five men at the mill and elevator and store. One man is steady in the feed plant, but the others lend him a hand quite often. We do a lot of 4- and 5-ton grind and mix batches here, and we also do some as low at 500 lb. We've got a small, old ½-ton mixer we use for those jobs."

Another Iowa cooperative charges 12¢ for grinding, 5¢ per cwt. for mixing and 4¢ for shelling corn.

New Mill Charges More

"I feel that I can charge a few cents more for grinding and mixing than the older type mills around here," said one independent. "I can service farmers quicker and save them time, and I can do a better grinding and mixing job with new machinery. The farmer knows this, and he values these things, especially the saving of time. And my double and triple capacity, too, helps me earn more per day when the rush season is on. Why should I stay on the level of the older mill? The extra charge helps me pay for my expansion program, and the charges are reasonable."

However, grinding and mixing charges can be somewhat deceptive, for they are often tied in with other charges. Some dealers charge from $1 to $3 per load on grain which they haul from the farm to the mill to be ground, or sometimes put into grain bank storage. In some instances the hauling charge is as low as $1 per load if the farmer agrees to pay a grain storage charge per bushel in case he stores it for a certain number of months and draws on it for grinding exclusively at the mill holding it. Mills vary, too, on their charges for delivering bulk feed to the farmer. Some rates are up to 10¢ per mile; others are lower.

Don't Keep Records

The fact of the matter is that very few custom millers know exactly how much their grinding and mixing departments cost them, whether they are making money, breaking even or losing on the grind-mix operation, without sale of other materials. Often the information is contained on duplicate invoices in the dealer's files, but too often he does not departmentalize that far.

One dealer proudly pointed out to me that he supplied a farmer with a 200-acre farm, a 20-cow dairy herd and a 500-layer flock with $2,163 worth of feed during the year.

"How much of that was grinding and mixing?" I asked.

"I don't know," he replied. "We lump it all together. I'd have to go back over each ticket and figure it up for you."

It is quite likely that if industry leaders and others carried on a consistent campaign to get custom millers to keep accurate cost records on grinding and mixing, there might be promising results. Recent custom mill survey findings which have been published in Feedstuffs, have proved interesting to numerous custom millers and have caused many of them to consider setting up better departmental records.

"We're prospering," one miller said. "Ninety percent of the feed we sell goes through our mill, so we know that our grinding and mixing pay off, along with the sale of concentrates, molasses, etc. It's our grinding and mixing that bring the farmers in. We make our profit from the sale of ingredients and related items."

On the other hand, a few millers who did have complete records knew how many tons of feed they processed and the dollar charge per ton, and they knew how much profit they were making from the grinding and mixing as such. One miller even went to the trouble of figuring for farmers the to-

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USDA RULING CALLED "UNFAIR TO ELEPHANTS"

MIAMI, FLA.—A charge of discrimination against elephants — and by a GOP administration at that—was leveled against the U.S. Department of Agriculture recently. The charge was made by a carnival owner in Florida who said a federal ruling allowing railroads to haul hay at half rate for Florida ranchers hit by the cold weather does not apply to elephants. He said officials of the agriculture department in Orange County, Flor'da, refused to let him bring in hay for his six elephants, two llamas, camel and zebra at reduced freight rates. The animals were appearing at the Homestead State Fair, and he said his 40-acre pasture at his winter quarters in Orlando froze "just like the ranchers." The trouble isn't so much with the llamas, camel and zebra, he said, as the elephants, who "stoke hay away by the bale."

tal amounts of feeds, grinding and mixing charges, grass seed, fertilizer, etc., they purchased during the year. Farmers can't help having additional confidence in the feed man who has a respect for figures like that.

Post Charges

I believe that more custom mill operators should have their grinding and mixing charges posted at several places around the store and mill. Regular customers may know what you charge, but how about the new farmers. Are you going to make him ask what the charges are, or are you going to post your prices for all to see, so that all farmers know you charge others the same as you charge them?

A couple of mills I visited had these charges posted on cardboard inside one of the sheltered grain receiving areas. This is the spot where some farmers stand for five to ten minutes, depending upon the size of the load of grain brought in and whether the mill is serving another customer. Such a waiting farmer has time to look around. This is the chance to get him to look at a well placed "charges" poster. He can thus familiarize himself with all your rates. This will help him to decide what extra grinding and mixing business or shelling to give you when the proper time comes.

Likewise, since most millers admit that grinding and mixing facilities are traffic builders in many mills, why not advertise these rates in newspapers and direct mail, instead of perhaps trying to keep them secret, so to speak?

Additional Business

In many cases the millers who have installed new machinery report a considerable increase in grinding and mixing volume, no matter what the rates, so long as they stay within a reasonable range. Where is this additional business coming from?

It comes from various sources, as follows, according to millers I have visited:

1. A large portion of the increase in grinding and mixing volume comes from older established mills that have slower and less efficient machinery.

2. Some of the added volume comes from farmers' increased use of grinding and mixing facilities. The modern farmer who sees what efficient, high speed machinery can do in processing complex feeds funnels more grains into such a program. And in quite a few instances farmers who relied on their own, small, farm-stationed hammermills are putting them in storage and getting the work done in town by better equipment, and at a saving in time.

The small, farm-operated hammermill, many economy-minded farmers are discovering, eats up many man hours, which the modern farmer can use more economically doing other jobs.

One conclusion seems quite evident. The well equipped and managed custom mill is in an excellent position to grind and mix for the average farmer at as reasonable a price as he can get anywhere, and at the same time make more profit for the miller through greater per day capacity.

FIRM ADDS STORAGE

STAFFORD, KANSAS — Storage facilities for 100,000 bu. of grain are being added by the Stafford Seed Co. here. Eugene Brister, owner, said the seed company is erecting a horizontal metal building, rather than more concrete tanks. The structure will cover an area 50 ft. by 141 ft., with walls 14 ft. tall.

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DYNAFOS DICALCIUM PHOSPHATE AND MULTIFOS
SODIUM BENTONITE
PACIFIC MOLASSES — PILOT OYSTER SHELLS
DU PONT'S "TWO-SIXTY-TWO" FEED COMPOUND
STONEMO GRANITE GRIT — CALF MANNA
NOPCO FEED SUPPLEMENTS
WHEAT GERM — WHEAT GERM OIL
AGRI-TECH ALFALFA PRODUCTS

INQUIRIES APPRECIATED

FEED NUTRITIONISTS, *we leave it to you:*

Can you cut ingredient costs with Torafeed yeast at 8¢ a pound?*

Compare these yeast analysis figures from **FEEDSTUFFS'** *1957 table with Torafeed analysis from* **RED STAR** *laboratories*

NUTRITIONAL FACTORS	Regular Brewers Dried Yeast	Regular Torula Dried Yeast	Red Star Torafeed Averages	Check here values most important to you and ask yourself if Torafeed isn't your best value source.
Protein	45% min.	48% min.	51.5%	
Fat	1.0% min.	2.0% min.	4.8%	
Fiber	2.7% max.	2.7% max.	0.5%	
Riboflavin mg. per lb.	15	20	28.5	
Niacin mg. per lb.	203	220	252	
Pantothenic acid mg. per lb.	50	24	26	
Choline mg. per lb.	1750	1300	1270	
Folic Acid mg. per lb.	4.4	10	9.1	
Arginine	2.2%	2.6%	3.6%	
Lysine	3.0%	3.8%	4.1%	
Methionine	1.0%	.80%	.80%	
Cystine	.50%	.60%	.70%	
Tryptophane	.81%	.50%	.70%	
Glycine	1.7%	0.2%	2.4%	

See why more and more nutritionists are specifying Red Star Torafeed

The chart above—along with the price schedule at the right—explains the rapid growth of Red Star Torafeed yeast. Check the food factors most important to you, then compare Red Star Torafeed prices with the amount you are currently paying. This will give you the approximate saving you can make for your company by using Torafeed.

Where to save money with Torafeed

CATTLE FEED—Tests at Ames, Iowa, showed that torula yeast stimulated rumen bacteria, producing greater weight gains per pound of feed, in less time for less money, and gave a greater number of animals grading choice.

MINK FEED—Michigan State University experiment reports show torula yeast gives excellent results.

PET FOODS—As a protein replacement (see above chart), Torafeed is high in quality and low in price.

FISH FOODS—Reports at an Animal Nutrition Research Council meeting showed torula was by far the most economical yeast to use in fish food.

Send for **FREE** *sample*

Write today for a free sample of Red Star Torafeed (dried torula yeast). If you mention the types of feed you manufacture, we will send you research reports relating to your area of interest. Address inquiries to Red Star Yeast & Products Co., Department F, Milwaukee 1, Wisconsin.

***USE THESE TORAFEED PRICES To Figure Your *Savings*:**

The exact price you pay for Red Star Torafeed (dried torula yeast) depends on your location, and on the quantities purchased. Prices here are F.O.B. Green Bay, Wisconsin. Torafeed is not a by-product. It has consistent quality throughout the year. The price and the supply are steady.

	Price per Pound
Carlot (40,000 lbs. minimum)	8¢
Trucklot (20,000 lbs. minimum)	8¢
10,000 to 19,950 lbs.	8¼¢
5,000 to 9,950 lbs.	8½¢
2,500 to 4,950 lbs.	8¾¢
1,000 to 2,450 lbs.	9¢
950 lbs. or less	9½¢

Torafeed Guaranteed Analysis

Protein (crude) ..... min. 45% — Moisture ..... max. 8%
Fat ..... min. 3.5% — Ash ..... max. 9%
Fiber ..... max. 1.5%

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Wisconsin Scientists Suggest Low-Protein Diets for Pullets

MADISON, WIS. — A new pullet growing plan developed at the University of Wisconsin shows promise in cutting down the amount of expensive protein feeds needed to raise good layers, according to researchers.

Research shows that low-protein rations during the growing period do not injure a pullet's egg production later in life.

Dr. M. L. Sunde and Dr. H. R. Bird, department of poultry husbandry, recommend switching chicks from a 20% protein starting diet to a 15% protein diet at four weeks of age. They say that when the chicks are 10 weeks old, this can be cut to 12% or 13%, and can be dropped to 11% or 12% at 15 weeks.

The researchers also recommend that poultrymen switch to a conventional laying ration as soon as they get the first egg. However, a reduction in laying-ration protein content may be possible if future tests bear out previous results, they point out.

The method has been under test for four years with pullets reared in colony houses and sand yards. There were no consistent differences in egg production, no effect on egg size and maturity was not delayed by the lower protein rations.

"This reduced-protein plan could save quite a bit of protein during the 20-week period. Protein is the most expensive feed component. Proper use of pasture reduces pullet-raising costs even further," according to the researchers.

BEMIS DIVIDEND

ST. LOUIS—Bemis Bro. Bag Co., which had been paying a dividend of 50¢, paid a dividend of 40¢ March 1 to stockholders of record Feb. 15.

Lilly Reports Record Research Expenditure

INDIANAPOLIS — A record $13.2 million was spent for research and development in 1957 by Eli Lilly & Co., manufacturer of pharmaceuticals, according to the company's annual report.

Besides its line of medical products, the company produces such livestock feed additives as stilbestrol and "Hygromix," an antibiotic introduced during 1957 for control of internal parasites of swine and other animals.

Net sales for the firm were up from $181,530,000 in 1956 to $199,801,000 in 1957, a 10% increase. Income before income taxes in 1957 was $66,213,000, as compared to $62,311,000 in 1956. Taxes on 1957 income were $33,916,000, leaving a net income of $32,297,000.

Net income per share of common stock was $4.07. Dividends paid per common share were $2.

The report pointed out that the research and development expenditure figure does not include quality-control programs for company products. It also emphasizes the importance of research with a special section which points out that in 1957 more than 70% of the company's consolidated net sales came from products developed within the last 10 years.

R. L. Boswell

SALES REPRESENTATIVE — R. L. Boswell, former chief of the egg section of the Georgia Department of Agriculture, has been named sales representative for Nichols, Inc., Exeter, N.H., poultry breeder, in the southeastern states. He will assume his duties after a three-month training period, and will operate out of Greensboro, Ga. Mr. Boswell has a bachelor's degree in economics from Presbyterian College, Clinton, S.C.

Firm Announces New Test for Vitamin E

CHICAGO—A new chemical method for the determination of vitamin E has been announced by Dr. Lawrence Rosner, director, Rosner-Hixson Laboratories, Chicago.

Previous conventional chemical procedures for vitamin E did not clearly differentiate among the various tocopherols, said Dr. Rosner, and results were usually obtained in terms of total tocopherols present. The new method, however, separates the alpha tocopherol from other tocopherols, as well as from other interfering compounds, by chromatography. Since the major portion of vitamin E activity in feed ingredients and in vitamin E supplements derives from their content of alpha tocopherol, the method used by Rosner-Hixson gives results approximating those obtained from biological assay, according to the firm.

If vitamin E supplements are added to feeds, Dr. Rosner points out, it is necessary to know the form of vitamin E—whether it is derived from natural (D) or from synthetic (DL) sources—in order to convert concentration of alpha tocopherol into International Units of vitamin E activity. This information is necessary because the natural and synthetic forms have different conversion factors. For the present, it is sufficient to know the supplier of the vitamin E supplement, since each supplies only one form, he stated.

NEW

Nopcay® Type V

MICRATIZED® VITAMIN A

2 *twice* as effective

more than *twice* as effective

if vitamin A in unprotected form is unstable in your feed

The biological value of the new Nopcay Type V is twice that of natural vitamin A from fish liver oil or its synthetic substitute when both are fed at full potency. As the potency of feed fortified with oil decreases, due to instability, the ratio of effectiveness between Nopcay Type V and oil increases rapidly.

If, for example, your feed fortified with oil loses 35% of its activity under certain mild conditions, and if we assume that the same feed fortified with Nopcay Type V loses even as much as 10% (a liberal allowance, because Nopcay Type V is Micratized), then Nopcay Type V becomes approximately three times as effective as oil. The calculation is made as follows:

	Feed with oil	Feed with Nopcay Type V
Vitamin A loss	35%	10%
Vitamin A retained	65%	90%
Factor for effectiveness of original supplement	x 1	x 2
Relative effectiveness for the animal	65%	180%
		(approx. 3 to 1)

Why not find out how effective Nopcay Type V can be for you. Write for full details and technical bulletin.

NOPCO CHEMICAL COMPANY

Harrison, N.J., and Richmond, Calif.

NOPCO

Basic producers of Micratized® Vitamins A and D, niacin, calcium pantothenate, choline chloride, and other products

THAT GOOD UNIFORM MEDO GREEN ALFALFA

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It's continuous!

. . . like the production and availability of Solulac! Because it's produced every week of the year, you can formulate your feeds with Solulac and be sure of a *continuous* supply. You can get the high nutritional values of Solulac, its unidentified growth factors and vitamins. Guaranteed to be free flowing in 50 and 100 pound bags or bulk carloads. Just write, wire or phone. And remember, Grain Processing Corporation is also a *continuous* source of corn distillers dried grains.

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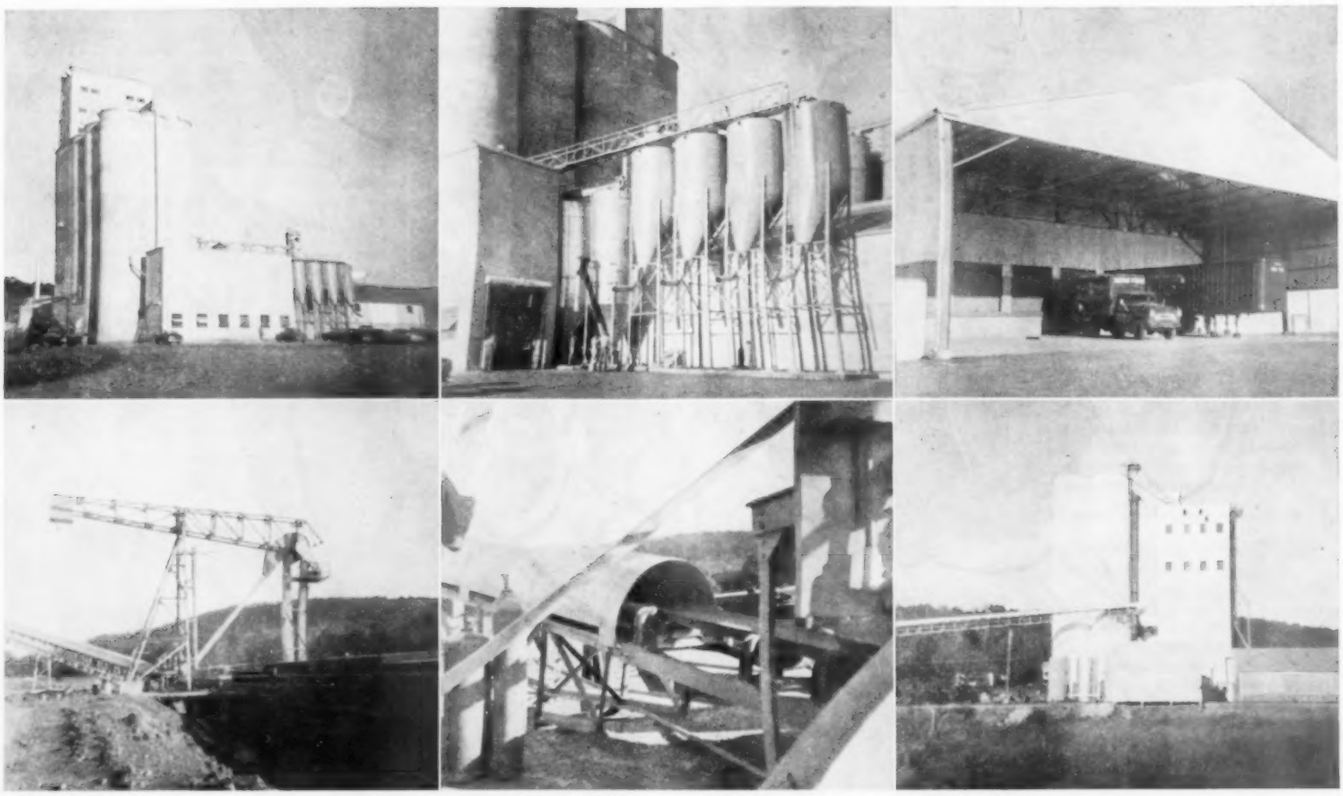
Riboflavin — Vitamin B-12 — Bacitracin — GP-101, source of whey and other unidentified growth factors.

Camera Views of the News ★ ★ ★ ★ ★ ★



NEW PLANT—These are pictures of the new feed plant of the Cotton Producers Assn. at Guntersville, Ala. This cooperative, headquartered in Atlanta, also has a new mill at Flowery Branch, Ga. Capacity of the mill, operated by Cooperative Mills, will be approximately 100,000 tons of feed a year. It is expected, officials said, that some 50% of the tonnage will move in bulk. Bulk storage tanks and bulk loading facilities have recently been under construction, and some of the facilities may be seen in the above pictures. In the way of grain storage, the plant has capacity for 150,000 bu. Grain will be brought in from north Alabama and river points. As shown in the photos, barges bring grain into the plant. They have a capacity of from 800 to 1500 tons. The above pictures include views of the plant, storage tanks, truck dock and grain unloading and conveying facilities. Height of the elevator is 112 ft. The plant will serve west Georgia, Alabama, east Tennessee and north Florida.

SECRETARIAL INSPECTION—Ezra Taft Benson, Secretary of Agriculture, examines a just-off-the-press issue of "Farm Store Merchandising," new publication of the Miller Publishing Co. Looking on are Paul A. Anderson, left, advertising sales manager of the new magazine, and Emmet J. Hoffman, editor. Mr. Hoffman is also a member of the Feedstuffs editorial staff, being merchandising editor. The picture was taken in Minneapolis March 3 when Mr. Benson appeared before the annual farm forum meeting of the Chamber of Commerce.

NUTRITION SCHOOL—Twenty-eight feed men, dealers, poultry servicemen and hatchery men recently attended the 74th Poultry Health and Nutrition School sponsored by Whitmoyer Laboratories, Inc., Myerstown, Pa. Nine states and Canada were represented in the class. A total of 46 had enrolled for the school but not all were able to attend because of a snowstorm. An additional day was added to the program to make up for time lost at the beginning due to delays in arrival caused by the storm. Student participation, lectures, demonstrations and visual aids were utilized in the course of instruction. The next school is scheduled for May.

Those who attended were (front row, left to right) George Bekkering, Morley (Mich.) Produce House; Harlin Grace, Super Broiler Co., Jasper, Ala.; Blair Haines, C&H Milling Co., Hadley, Pa.; Thomas Jamieson, Lakeview Poultry Farm, Atherley, Ont., Canada; Norman Robinson, poultry farmer, Kleinburg, Ont., Canada; Don Leonard, M. J. Ward & Son, Savona, N.Y.; Wendell Berkshire, M. E. Miller & Son, Inc., Wauseon, Ohio; Lynn R. Martin, Shanaman, Inc., Shillington, Pa., and Mahlon Miller, M. E. Miller & Son, Inc., Wauseon, Ohio. In the middle row (left to right) are William D. Garbow, Allied Mills, Inc., Grand Rapids, Mich.; Levi F. Bunting, Berlin Milling Co., Frankford, Del.; Clarence Heard, L. M. Hilley Feed Co., Boaz, Ala.; Gene Darnell, Whitmoyer Laboratories of Georgia, Inc., Albertville, Ala.; Peter L. Martin, Oxendyke Farms, Ltd., Loretto, Ont., Canada; Ray Sharlow, Cook & Hager, Fremont, Mich.; Harverd Hoekje, Overisel Feed & Lumber, Hamilton, Mich.; James Patton, Hubbard Milling Co., Marion, Ind.; John W. McNeal, Hubbard Milling Co., Warsaw, Ind., and Bob H. Pleager, Tri-County Feed, Inc., Douglas, Ala. In the back row are Herschel Haradine, Harvey's Milling Co., Carson City, Mich.; Glenn Brown, Southern Milling Co., Augusta, Ga.; William A. Pusey, Salisbury (Md.) Milling Co.; Everette C. Matthews, Berlin (Md.) Milling Co.; James E. Duffin, Grain & Coal, Ltd., Thorndale, Ont., Canada; O. D. Berdan, Glencoe (Ont.) Grain & Coal, Ltd., Canada; David H. Miller, Abraham Miller & Son, Wilmot, Ohio; Ned L. Clark, Clark's Feed Mills, Shamokin, Pa., and Francis Conaway, M. J. Ward & Sons, Lawrenceville, Pa.

Systemic Insecticides Offer Promise, Cattle Researcher Says

STATE COLLEGE, N.M. — "Systemic insecticides offer livestock owners a new way to attack some of the destructive livestock pests," cattlemen were told at the New Mexico Cattle Breeders School held here recently.

The speaker was Dr. H. O. Peterson of the U.S. Department of Agriculture's animal disease and parasite research division in Albuquerque. He continued: "The insecticides are not, by any means, the answer to the control of all livestock parasites, but show great promise for the control of cattle grubs, the larvae of the bot fly of sheep, and possibly larval forms of some of the other flies attacking livestock. Systemic insecticides lend themselves to treatment of large herds of animals under range conditions because they can be applied in a variety of ways."

Prevention and control of parasites and diseases of livestock were spotlighted at the two-day school, sponsored by the New Mexico Cattle Growers Assn. and New Mexico A&M College Experiment Station and Extension Service.

Another speaker, Rex W. Allen, parasitologist with the USDA Agricultural Research Service at State College, said that internal parasites are responsible for an annual loss of about $40 million in cattle production in this country.

Since cattle get most of their parasites by grazing on forage that has been contaminated by infected cattle, Mr. Allen emphasized the importance of proper rate of stocking and rotation of pastures as good preventive measures.

Dr. H. R. Crookshank of the Animal Husbandry Research Division, USDA, Amarillo, Texas, said the addition of calcium and magnesium to sorghum rations increases chances of stone formation in urinary calculi. The formation may be decreased by the addition of phosphorus, he said.

Ground milo heads are more predisposing toward calculi than ground milo grain. Both ammonium chloride and Aureomycin appear to offer excellent possibilities as preventives, Dr. Crookshank said.

Bone meal as part of a salt and meal mixture or combined with cottonseed meal in cake or pellet form has also been effective as a preventive in range steers, he added.

Texas Tests Evaluate Urea-Molasses Mixture As Cattle Supplement

COLLEGE STATION, TEXAS — Feeding tests have been conducted to evaluate a urea-molasses liquid supplement for winter feeding of range cattle in Texas.

Generally, it was indicated that the mixture offers a possibility of providing protein, total digestible nutrients, minerals and vitamin A in a form that may be self-fed in simple, inexpensive equipment.

Prof. W. T. Berry, Jr., Dr. H. O. Kunkel and Prof. J. K. Riggs, all from the department of animal husbandry, Texas A&M College, report the methods and results of the tests in Texas Agricultural Progress, publication of the college Agricultural Experiment Station.

According to the researchers, cows fed urea-molasses mixture (30% protein) lost somewhat more weight through the winter than cows in a similar group fed cottonseed cake. However, the calves of the group fed the mixture averaged 30 lb. heavier at the close of the winter feeding period.

The researchers point out that it is not known just how much weight can be lost by a cow during the wintering-nursing period without damage to normal body processes, but weight loss is expected. The average losses of 129 lb. per cow during the test period by the urea-molasses group and the 92 lb. lost by the group fed cottonseed cake are within the limits expected by stockmen.

The mixture was fortified with phosphorus, trace minerals and vitamin A, and was self-fed for 150 days to a group of 30 Angus cows being wintered on dry range grass typical of the West Texas area.

With cottonseed cake at $70 a ton and urea-molasses supplement at $60 a ton, the cost of winter feeding was $14.32 a head for the cows fed cake and $13.95 for those fed the urea-molasses supplement.

Less labor and transportation were needed in feeding the urea-molasses but special equipment was necessary, according to the researchers.

The average consumption of liquid supplement was 3.44 lb. per head daily for the first 128 days. During this period the cows had access to dry vegetation only and the consumption of supplement was reasonably constant from day to day.

Further work will determine the final weaning weight of the current calf crop, the weight gained by the cows during the gestation period and the reproductive performance of each group during the next year, according to the report.

Stilbestrol Implants Tested in Virginia

BLACKSBURG, VA. — Implanting stilbestrol in the ear of two-year-old grazing steers at various levels resulted in a marked increase in rate of gain in recent tests at Agricultural Experiment Station of Virginia Polytechnic Institute.

In the 147-day test, the best results were obtained by implanting the drug at the 12-milligram level, a report on the trial indicates.

Carcass grade was not affected when 12 mg. stilbestrol were implanted. However, higher levels (36 or 48 mg.) caused a decrease of about one third of a grade. There was a trend toward a lower dressing percentage in cattle which had been treated, but the decrease was very small (about ½%) when the lower levels (12 to 24 mg.) of stilbestrol were used.

More tests are planned during the coming grazing season.

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Pelleted Feeds For Dairy Cows Discussed

ROANOKE, VA. — The possibility of pelleted feeds for dairy cattle, and also pelleted forage, was one of the questions discussed at a "workshop" at the recent Virginia Feed and Nutrition Conference in Roanoke.

The conference included evening workshops dealing with various types of feeds, and one of the workshops covered questions on dairy feeding.

(An earlier story reviewing conference talks appeared in the March 15 issue of Feedstuffs.)

On the question of pelleted feeds, it was decided that pelleting of the concentrate mixture would not have a detrimental effect on the butterfat test providing the forage intake was not drastically reduced. There might be some changes in the time a pellet stays in the rumen. In summarizing the discussions, the moderator, C. C. Graf of Virginia Polytechnic Institute noted that pelleted concentrates have an advantage in that they are more rapidly consumed and allow the cow to eat more grain while she is in the stall of a milking parlor.

Regarding pelleted forage, the feeling was expressed that this might lead to a reduction in butterfat test. However, more data are needed. Whether the hay is ground or chopped may largely answer the question. The consensus was that more data are needed on density and hardness of the pellet and its effect on digestibility. Pelleted hay may lend itself to automatic feeding systems and greater intakes. Trials were cited in which all-pelleted rations resulted in lower fat tests.

The opinion was expressed that incomplete home mixing of a grain ration probably would not result in lowered milk production or fat test. In cases where feeding a commercial concentrate follows feeding of an incomplete mixed farm ration and there is an increased fat test, there probably are other factors that bring this about.

Does a therm of net energy of one ingredient have as much value as any other ingredient? In terms of net energy, the answer is yes on the basis of present information.

Aureomycin in dairy feeds for treatment or prevention of certain ailments such as foot rot was questioned. Dr. Graf said evidence to substantiate its use in this way appears to be lacking.

Use of wheat midds in a grain mixture is limited because it is not as palatable as some other more common ingredients and it is of pastelike nature when moistened. Around 200 to 300 lb. could be used. If the concentrate mixture were pelleted, most of the disadvantages mentioned would be eliminated.

Swine, Cattle Feeding

Questions in the workshop on swine, beef cattle and sheep feeding brought on these statements:

The swine requirement for zinc is most likely somewhere between 20 and 100 parts per million and the toxic level is near 1,000 ppm. On this basis some rations with alfalfa meal at 5% are on the borderline of being deficient if it is the only ingredient with appreciable zinc.

On the basis of present thinking, pigs up to three weeks can't do an efficient job of digesting soybean protein. On some rations proteolytic enzymes are perhaps beneficial to pigs of this age.

One station has shown beneficial results from iodinated casein for brood sows; other stations have shown negative results.

We know how to feed pigs weaned at 7-14 days of age, but as a major factor in hog production it may not be economical.

Fish meal and fish solubles in swine feeding have much the same place as in poultry feeding.

No completely satisfactory answer was indicated for the problem of getting penicillin or oil to cattle on pasture to control bloat. Penicillin in salt was said to be all right if the salt is kept dry but it may not be possible to keep it dry enough to prevent breakdown of penicillin for very long.

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Poultry Industry Value to Delmarva Shown in Survey

SALISBURY, MD.—What the poultry industry means to the Delmarva Peninsula was revealed recently in a report on the results of a month-long survey completed by committees of growers, processors, hatcherymen, feed manufacturers and supply dealers.

The survey was sponsored by the Delmarva Poultry Industry, Inc., Georgetown, Del.

Last year, the relatively young industry produced 180 million chickens in the area. Its total payroll amounted to almost $45 million; its feed bill was $67 million; baby chicks cost $22 million and the industry paid taxes of more than $1,250,000.

This was accomplished, the report indicates, after hardly more than a generation of growth of the industry from backyard flocks to a giant.

A total of 12,697 persons worked directly in some branch of the industry, on farms, in processing plants, for feed manufacturers, hatcheries and suppliers, says Sterling White, Delmar, general chairman of the survey.

The Delmarva area's 5,000 broiler houses, each averaging 10,000 birds, are worth more than $60 million, including their equipment. Processing plants on the peninsula are worth about $15 million, according to the report.

Vaccinations in the area cost $2.7 million and fuel for the chickens cost about $4 million, the survey also indicated. Containers for the chicks, feed and processed chickens alone cost $9 million, and transportation costs were more than $13 million.

Some $54 million of growers' business was done on credit extended them by processors, feed houses, suppliers and banks.

But the area still has plenty of room for growth, the report pointed out. Its processing plants operated at only 75% of capacity—based on a 40-hour week. Two shifts working at full capacity could have turned out more than 400 million birds ready for the consumer.

"No other agricultural business in the world has grown to such giant size in so short a time," said John Hargreaves, Federalsburg, Md., president of Delmarva Poultry Industry. "With a weekly payroll approaching the million-dollar mark, buildings and equipment worth $100 million, and a total yearly business of about $156 million, the poultry industry ranks as the most important single industry on the Shore. Delmarva has seen its fledgling idea of a generation ago mushroom nationally into a giant that does more than $1.5 billion in business a year."

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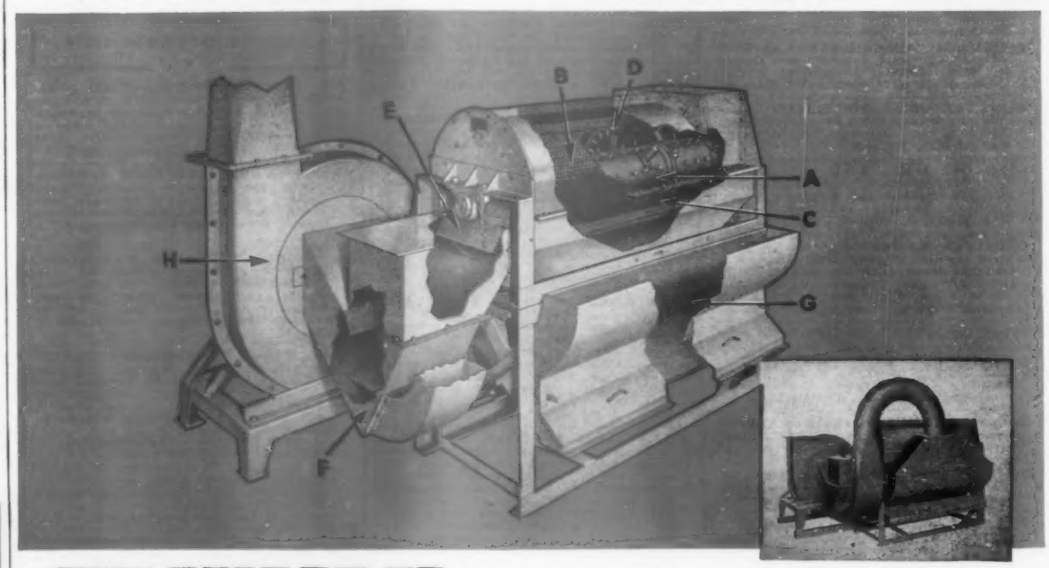

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SALES REPRESENTATIVE, INDIVIDUAL or firm, wanted to sell flavor compounds to feed manufacturers, seed houses, mineral producers, drug houses, chemical companies, industrial products companies, etc., for the entire state of Florida. Excellent commissions. Good selling program backed by national advertising, literature and sampling. Send resume and photo to: Taste Engineering, Inc., 1401 West Hubbard Street, Chicago 22, Ill.

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Latin American assignment. Provide technical assistance to clients for all animal groups. Ph.D. degree preferred. Broad experience essential. Foreign language not essential. Age 30 to 50. Address Ad No. 3609, Feedstuffs, Minneapolis 1, Minn.

NUTRITIONIST

Challenging nutrition assignment with large feed manufacturer—complete responsibility for nutrition and technical fieldwork in eastern or western half of U.S. Commercial experience desirable—academic work experience acceptable. Ph.D. required. Prefer background in poultry nutrition. Age 28-35. Address Ad No. 3608, Feedstuffs, Minneapolis 1, Minn.

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Top management opening for mature, experienced man by major eastern feed manufacturer. Position requires creative concepts, planning, administrative and management skills, acceptance of responsibility. Adequate staff and field organization. Excellent growth opportunity. Salary plus direct incentive. Residence in city of ideal size and environment. Submit details of experience and accomplishments in first reply. Address Ad No. 3547, Feedstuffs, Minneapolis 1, Minn.

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WANTED — GOOD USED PELLET MILL, complete. Robnett's Egg Farms, 2507 54th St., Lubbock, Texas.

TRUCK SCALES WANTED — 15 TO 20 tons; 16 to 20 ft. deck. Fasco Mills, Mendota, Ill.

ALL KINDS OF GOOD USED GRAIN processing machinery. E. H. Beer & Co., Inc., Baltimore 2, Md.

WANTED 4- OR 2-TON FEED MIXER— Have 1-ton to trade or sell. Roman Elevator, Fort Morgan, Colo.

WANTED TO BUY—RAY OIL BURNER. Jones Alfalfa Milling Co., Box 757, Topeka, Kansas.

WANTED—GOOD USED MILL, 60 OR 75 H.P. with blower, dust collector, mixer, drag, starters, complete set-up. King's Feed Store, Assumption, Ill.

WANTED TO BUY — RICHARDSON scales, bag closing machines and other good mill, feed and elevator equipment. J. E. Hagan Mill Machinery, Jefferson City, Mo.

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WANTED—SPECIALTY FEED INGREDIent for distribution in eastern Canada. We have a long record of successful sales to Canadian feed manufacturers. Address Ad No. 3596, Feedstuffs, Minneapolis 1, Minn.

FEED MILL, ELEVATOR, WAREHOUSE, hatchery, egg buying station for sale. Branded feeds manufactured, sold, both wholesale and retail. Illinois location. Bargain price to settle estate. Address Ad No. 3584, Feedstuffs, Minneapolis 1, Minn.

FOR SALE—OLD ESTABLISHED WHOLEsale and retail feed business, ideal location adjacent stock yards, terminal market, $20,000 will handle without real property, long lease or will sell property also. Address Ad No. 3572, Feedstuffs, Minneapolis 1, Minn.

CALIFORNIA OPPORTUNITY — FEED and grain mill in Livermore. Wholesale and retail livestock feeds. Six miles from horse track. This is a sound investment with future land profit inevitable as city growth in this direction. Al Wilson, P.O. Box 685, Livermore, Cal.

ESTABLISHED FEED, GARDEN AND PET supply business located in Gilroy, Cal. Warehouse 275'x60'; display room 40'x60', glassed in front and side; milling and mixing machinery; railroad siding; truck dock. Located in one of the fastest growing poultry areas in California. Full equipment, fixtures and inventory and supplies—$18,500. Contact Fred M. Carr & Sons, San Jose or Mountain View, Cal.

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BULK FEED TRUCK—BAUGHMAN SF-5 all hydraulic, 7-ton, 4-compartment, bulk body on 1956 Chevrolet truck. Outfit in excellent condition, priced to sell. Address Ad No. 3595, Feedstuffs, Minneapolis 1, Minn.

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DEGREE ANIMAL NUTRITION — EXperienced superintendent modern feed mill, 500-ton daily, feed formulation, quality control, technical sales feed supplements, chief chemist analytical laboratory. Farm background, married, children. Interested in management or product control. Address Ad No. 3613, Feedstuffs, Minneapolis 1, Minn.

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EQUIPMENT WANTED

WANTED TO BUY—EQUIPMENT SUITable for feed or flour mill quality control laboratory. Save Way Feed Mills, Chickasha, Okla.

Producers Hear Review Of Recent Findings In Poultry Nutrition

NEWARK, DEL. — Developments in poultry nutrition were reviewed for Farm and Home Week visitors at the University of Delaware here recently by both college and industry speakers.

T. D. Runnels, University poultry nutritionist, reported that recent investigation has uncovered several essential trace minerals for poultry rations. Some, including elemental sulphur, bromine and molybdenum, are being confirmed. Feed manufacturers are adding a trace mineral supplement to practical diets to provide a leeway of safety in their feed, he explained to producers.

As more trace minerals are found to be essential, they can easily be added to the diet through the supplement. However, he urged caution in feeding trace minerals before their need and safety have been proven.

"Octane rating" is an apt term to use in describing the energy potency of poultry rations and permits a prediction of expected feed conversion, said Dr. G. F. Combs, University of Maryland researcher. This is true provided the ration contains all essential nutrients required to balance its energy content, he added. By far the largest portion of the poultry feed dollar is spent for energy and protein. In the efficient and practical formulation of feed, he said, it is important to select feed ingredients which supply energy and protein as well as other nutrients most economically.

Dr. H. L. Wilcke, Ralston Purina Co., St. Louis, said the use of feed additives has made it possible for the poultryman to produce more efficiently and at lower cost. Everyone concerned must continually be conscious that no drugs or medications will replace good management, he emphasized.

A. F. Kish, Pennsylvania Farm Bureau Cooperative, Harrisburg, predicted high-energy laying mash with a high-fat level in the future. The amino acid content of feed, and not the crude protein level, will be of concern. There will be highly-fortified rations and possible increased use of additives such as antibiotics, he said.

Dr. Thomas Coulton, Southern States Cooperative, noted a trend to complete poultry feed formulation, with the accent not so much on various nutrients. The emphasis is being placed on a complete balance and relationship of all nutrients, he stated. He said present amino acid research will permit use of lower protein rations or make present levels more effective.

California Field Crops Inspector Retires

SAN FRANCISCO—F. W. (Ferd) Hoffman, supervisory field crops inspector, Bureau of Field Crops, California State Department of Agriculture at Sacramento, retired March 1, concluding 28 years of public service in agriculture. Mr. Hoffman, long considered a friend of the hay, grain, and feed industry, entered the service of the department as a hay inspector at Stockton in 1930. He was supervising inspector for the Bureau in Sacramento from March 1, 1945, until retirement.

In addition to being considered an authority on hop inspection, he is also considered to be an equal authority on rice. Mr. Hoffman will take up permanent residence at Marshall.

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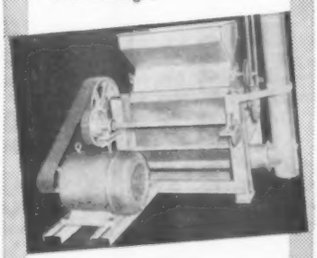

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Work Continues on Identifying New Growth Factor

BLACKSBURG, VA.—Work is continuing at the Virginia Agricultural Experiment Station on the isolation and identification of what appears to be a new vitamin-like substance in meat meal.

As reported previously, researchers there have found a substance which "does not appear to be like any of the known vitamins and thus appears to be a new vitamin-like substance essential for the growing animal that is receiving sulfa drug in the diet."

Prof. C. J. Ackerman, biochemist and nutritionist, explains that when young rats are fed a complete diet that permits them to grow normally, the growth can be almost completely stopped by adding 1% of sulfaguanidine to the diet. Growth can then be restored by the further addition of meat meal to the diet.

Various samples of meat have been tested, and only hog stomach, hog pancreas and hog intestine contain the active substance or substances. The active material has been extracted from hog stomach in highly concentrated form. It appears to be a new vitamin-like substance.

Prof. Ackerman said the new factor appears to be involved with thyroid hormone function. Rats which are fed sulfaguanidine exhibit symptoms of underactive thyroid activity and do not grow. However, the addition of pancreas or fractions of this tissue permit normal growth, although thyroid activity is still subnormal.

When meat meal is fed to normal rats or chickens, growth during the first weeks is stimulated, although the animals do not surpass their normal size. Work is now in progress to isolate and identify this growth-promoting factor.

Storage Shortage Expected in Iowa

DES MOINES — A rather severe shortage of storage space for 1958-crop corn is expected in Iowa this year, according to a report from the Western Grain & Feed Assn.

The report stated that this information was emphasized at a recent meeting of Agricultural Stabilization & Conservation warehouse work committee.

The ASC estimate is that the need will be for some 40 to 45 million bushels of additional storage space.

The estimate is based on the fact that last year some 80 million bushels of corn were taken out of bins and shipped to the Southwest where there was available storage. This is not available this year, and the only storage now available seems to be 20 to 25 million bushels in Illinois, the report said.

The association report said that anyone thinking of building new warehouse space should first contact his local ASC office to determine if there is a need for additional warehouse space in that particular area. Even though the state has a shortage, it is better not to build if there is no local shortage, the association reported.

Pfizer Promotes 3 in Agricultural Division

NEW YORK—Three staff promotions in the agricultural division of Chas. Pfizer & Co., Inc., New York, were announced by Hugh O. Dermody, assistant general manager of the division.

Robert L. Robinson, now animal health products manager for the division, has been promoted to sales operations manager, a newly-created post. He will be responsible for development of sales training programs for the division, including creative planning of sales training manuals and operational brochures.

Patrick J. Connolly, who has been feed supplements supervisor for the eastern region, will replace Mr. Robinson as animal health products manager in the home office.

Mr. Connolly's present position will be filled by Martin T. Fredericks, now a member of the field sales staff in the western region. Mr. Fredericks has served in that capacity since 1955.

Mr. Robinson joined Pfizer in 1956 as a project leader in the agricultural sales division. He was named animal health products manager in 1957.

Mr. Connolly came to the company as a sales representative in 1954 and was assigned to the eastern region, subsequently becoming feed supplement sales supervisor for the region.

FIRE DAMAGES STORE

ALBANY, KY.—McWhorter Brothers store, a farm supply dealer, at Albany, a branch of Southern State Cooperative, suffered an estimated $20,000 loss recently when fire believed to have started from defective wiring raced through the store.

43% Expeller Type Soybean Oil Meal

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feed for thought

by
Dr. H. S. Wilgus
VICE PRESIDENT and DIRECTOR OF RESEARCH
PETER HAND FOUNDATION

FIGURES & FALSIES

Reviving this column after two years recalls earlier columns (e.g., "Caveat Emptor," "UGF-Snake Oil?") containing ideas that are still appropriate. Consider the current rather bizarre claims about vitamin A supplements. Let's ponder some facts for weighing these claims.

Vitamin A is of known chemical structure whether derived naturally or by synthesis. It is measured physically or biologically (rat assay) in official units of established value and defined weight.

Vitamin A is destroyed rapidly by oxidation, speeded by pro-oxidants (e.g., trace minerals), moisture, light, heat, and exposure to readily-oxidized fats. Antioxidants (e.g., tocopherols and BHT) and protective coatings delay destruction. Destruction rate in mixtures varies unpredictably, depending on balance between protective and destructive influences. It may be immediate and rapid, or delayed and slow. These influences can persist into the gut.

Pressure, abrasion, moisture, heat, etc., destroy protective coatings at variable rates. Coatings can be indigestible enough to reduce vitamin absorption from the gut. Special techniques are often required to completely extract the A for assay.

Availability tests must be conducted under rigid conditions, eliminating destructive influences in the feed and gut. This requires strict diet standardization and administration of vitamin A materials directly into the animal, not the feed. Otherwise, unprotected reference vitamin A may be partially destroyed, giving falsely high apparent availability for the "stable" materials. A unit of A is a definite amount. It cannot be doubled. It can be partially or entirely destroyed.

Stability tests require meticulous control of the test medium and procedures (mixing, pelleting, storage, etc.) to assure all products equal treatment. They are tedious and expensive. No standard reference material for stability comparisons exists. Every man for himself.

Unusual findings require verification by different laboratories for scientific acceptance. One test is inadequate. Human interpretation can color data and quotations.

Sales minds are invariably enthusiastically subjective; researchers must be coldly objective. When sales dominate research, objectivity withers, bias is inevitable.

Figures may appear real, but they can mislead.

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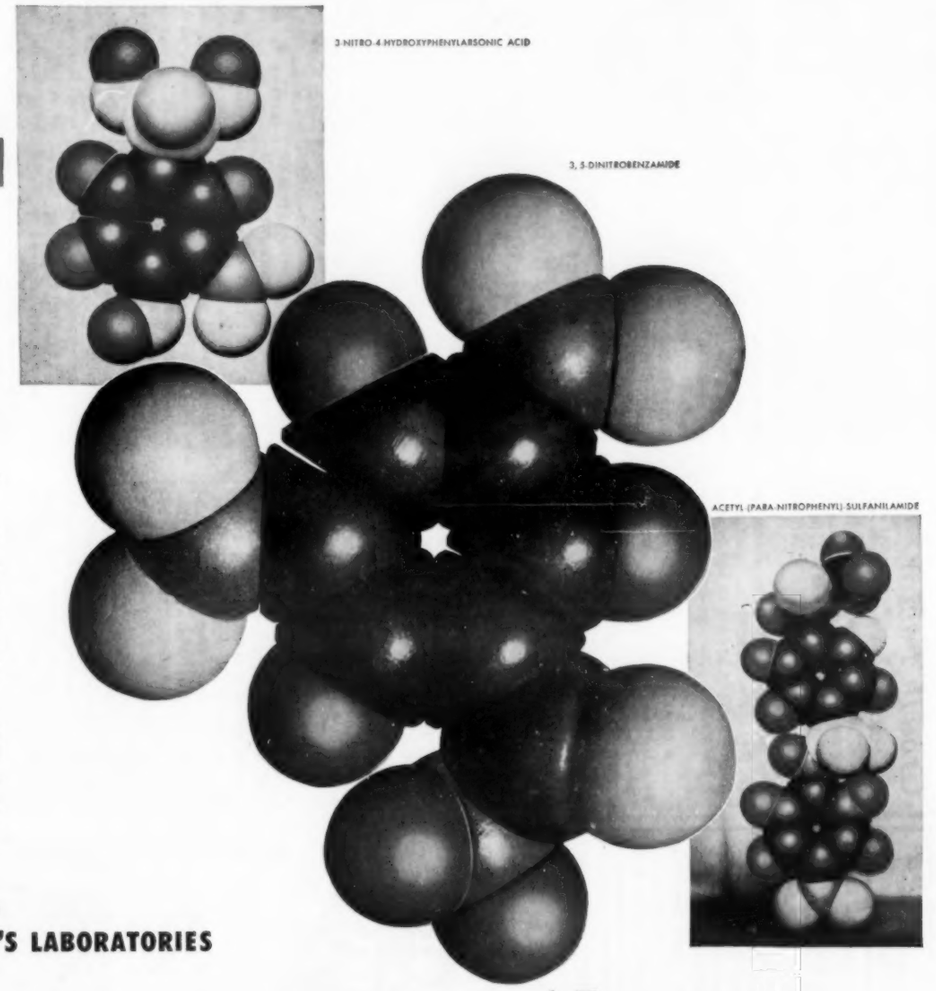

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Now, with Dr. Salsbury's UNISTAT, you can formulate superior chick and growing feeds with the profit-producing properties you have been seeking for both yourself *and* growers!

UNISTAT is not only a better growth stimulant that increases feeding efficiency and improves pigmentation...*it is highly effective in the prevention of E. tenella, E. necatrix and E. acervulina coccidiosis* because it contains...

A NEW AND DIFFERENT ANTI-COCCIDIAL AGENT THAT PERMITS DEVELOPMENT OF IMMUNITY

UNISTAT's unique coccidiostat 3, 5-Dinitrobenzamide combined with Acetyl-(para-nitrophenyl)-sulfanilamide and 3-Nitro-4-hydroxyphenylarsonic acid make up a completely new compound.

UNISTAT is compatible with normal feed ingredients, antibiotics, vitamins; is palatable, easy to handle. It provides more of the benefits sought by poultry raisers while satisfying the most critical and exacting scrutiny in both laboratory and field tests! It's economically practical too!

You can have the complete details regarding these tests and all the other data you will need to be among the first to formulate superior chick and growing feeds with UNISTAT. Write, wire, or phone today for UNISTAT Feed Manufacturers Guide.

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LOOK TO Dr. SALSBURY'S FOR FEED ADDITIVES WITH THE *plus* FACTORS

nation-wide service to the feed industry

PIG CROP

(Continued from page 1)

showed increases in sows to farrow from December through May.

Ohio reports 352,000 sows farrowing—down 2% from the same period in 1957. Numbers and percentage increases in other states are: Indiana, 588,000, 3%; Illinois, 947,000, 6%; Wisconsin, 312,000, 8%; Minnesota, 569,000, 6%; Iowa, 1,645,000, 4%; Missouri, 561,000, 6%; South Dakota, 284,000, 12%; Nebraska 360,000, 14%; Kansas, 129,000, 11%.

Previously noted trends toward earlier farrowing are noted in the report. For the December-February period, sows farrowed were estimated at 1,809,000—15% over the previous year. The heaviest increases in this three-month period occurred in December and January. The December-February farrowings represent 32% of the expected spring total, compared with 29% a year ago.

The number of sows bred and intended to farrow during March-May is 3,893,000 head—up only 1% from a year earlier and 27% below the old average for this period.

13% Increase in Summer

While the spring pig crop increase does not appear to be out of line, some possible trouble ahead is seen in the figures on breeding intentions for later pigs.

USDA said reported breeding intentions in the 10 states indicate 2,268,000 sows to farrow during the 1957 summer quarter (June-August, the first half of the fall pig crop period). This would be an increase of 13% over the number farrowed during the same period a year earlier.

All states show increases, ranging from 4% in Missouri to 39% in Kansas. Iowa, Illinois and Indiana, major states for this period, show increases of 15, 18 and 10%, respectively.

Pigs on Farms

The number of all hogs and pigs on farms on March 1 for nine states for which comparable data are available (Nebraska excluded) totaled 35,515,000 head—6% more than a year earlier. All states except Ohio show more hogs and pigs on farms this March than a year earlier.

Hogs six months old and over were up 5% from a year earlier. The number under six months was 6% more than a year earlier, with an increase of 1% in the 3-6-month age group and 12% in the number under three months. The increase in pigs under three months was less than the percentage increase in sows farrowed during December-February, indicating a litter size less than a year earlier, particularly in Iowa and the eastern Corn Belt.

USDA also revised its previous estimate of the 1957 U.S. spring pig crop, on the basis of recent data. The 1957 spring crop is now estimated at 51,849,000 pigs saved—3% less than the 1956 spring crop.

EGG GROUP

(Continued from page 1)

announced, is to provide a standard around which independent egg producers can rally for their common welfare. C. J. McAleavy, Wausau, Wis., said one of the most pressing tasks would be the development of a marketing pattern which would enable producers to preserve their independent status as the trend toward integration gains momentum.

He said it is becoming apparent that, except for allied industries, the egg business soon will consist of breeders, hatcherymen and producers on the one hand, and retail marketing interests on the other.

"The volume of eggs being handled by distributors and brokers appears destined to shrink," Mr. McAleavy said. "According to a recent U.S. Department of Agriculture survey, 40% of all the eggs handled by the major retail food chains serving the Chicago area come direct from producer assembly points maintained by the chains themselves."

He said the same thing is happening in the New York area, at a slower pace, but in the same direction.

Mr. McAleavy predicted that the growth of the new egg group may be rather slow at first, but he said the number of egg producers interested in this project will increase as the trend toward specialization gains momentum. He said the APHF plan is to use the state affiliate groups where possible to carry out the project.

Autonomous Group

The APHF proposal is for an autonomous group, however. A statement released with the APHF announcement said that while the new group will be within the framework of APHF, at least for the time being, it will be as autonomous as it is possible to make it.

The APHF was organized in 1916 to promote the general welfare of the poultry industry. Its active membership has been made up of breeders and multiplier hatcherymen, and it will continue to serve this segment of the industry.

There are two immediate fields in which producers have a right to show increased concern, the statement said. One is the industry's pricing mechanism. The small volume of spot egg sales used as a guide in posting prices on the New York and Chicago markets will be of even less value as the large terminal market disappears. The other is "the industry's archaic system of gauging egg quality."

There is dire need of a nation-wide approach to the problems by producers speaking through a united voice, the statement said.

"The question arises whether the national commodity organization for eggs should enter the field of promotion," APHF said. "The APHF executive committee does not propose it as such. The industry currently is working on a new formula which it is hoped will step up egg promotion through the Poultry and Egg National Board.

"To those who feel that the industry already is over-saturated with organizations and trade shows, we offer this important consideration: APHF has been a leading, active trade association for 42 years. It has its own trade show, four regional conventions and a number of state meetings.

"Setting up a national commodity organization for eggs under APHF's wing, therefore, does not create the necessity for additional industry overhead in this direction."

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
January 11	982	529	680	841	133	581	2,033	1,527
January 18	960	462	705	866	129	624	1,879	1,486
January 25	1,048	545	673	885	145	610	1,775	1,579
February 1	955	543	731	853	148	647	1,979	1,642
February 8	1,013	573	932	847	150	683	1,926	1,567
February 15	1,018	596	812	780	153	592	1,921	1,735
February 22	961	528	867	957	125	669	1,928	1,733
March 1	992	531	784	964	136	716	1,941	1,751
March 8	999	583	885	993	179	620	1,986	1,616
March 15	1,003	611	831	905	139	644	1,967	1,540

Week ending	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
January 11	1,079	513	2,334	390	5,519	258	2,214	1,329
January 18	1,128	494	2,276	326	5,524	226	2,327	1,255
January 25	1,229	539	2,503	361	6,041	221	2,344	1,410
February 1	1,216	556	2,345	327	6,142	195	2,540	1,477
February 8	1,242	525	2,415	302	6,165	215	2,465	1,461
February 15	1,271	531	2,423	340	6,108	240	2,444	1,630
February 22	1,277	492	2,495	343	6,132	229	2,397	1,751
March 1	1,191	518	2,570	297	6,244	241	2,731	1,538
March 8	1,204	466	2,651	323	6,307	259	2,509	1,644
March 15	1,135	460	2,518	393	6,015	203	2,588	1,537

Week ending	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1958	1957
January 11	2,376	374	2,030	247	127	926	26,936	24,435
January 18	2,498	347	2,020	258	156	875	26,744	24,654
January 25	2,699	372	2,188	297	128	947	28,449	25,800
February 1	2,560	381	2,256	249	153	931	28,746	26,264
February 8	2,687	380	2,229	274	154	927	29,944	26,424
February 15	2,766	429	2,140	323	158	1,071	29,307	25,704
February 22	2,897	500	2,355	288	170	1,022	30,049	25,605
March 1	2,678	484	2,340	297	163	1,007	30,041	25,589
March 8	2,715	471	2,431	327	195	957	30,320	26,815
March 15	2,570	392	2,279	324	207	930	29,191	27,379

CALIFORNIA

(Continued from page 4)

al for establishment of the council by 51% of all poultrymen in the state, whether they vote or not. Another measure would restrict membership in the council to poultrymen, and excluded butchers and allied industry representatives.

This measure was approved by the committee and is now with the Assembly Ways and Means Committee, which is considering another amendment appropriating $10,000 by the state to finance the referendum.

Little objection by feed groups has been registered against the revised measure, vastly different from the original.

(Meanwhile, in Georgia trade spokesmen, when they first learned of the proposed California poultry promotion group, said that earlier plans in California, to designate California-produced poultry, to meet competition from southeastern states, backfired when Georgia charged the plans were "discriminatory" and "constitute a boycott." The state commissioner of agriculture was authorized to enforce, rigidly, inspection of all perishable fruits and vegetables delivered in Atlanta from California producers.

(With the withdrawal of the California proposals on poultry, "peace was restored" and the fresh produce trade assumed the status quo.

(Action of the Georgia Legislature, however, left the rigid enforcement up to the discretion of the commissioner "if and when any boycott of Georgia-produced poultry was threatened" by legislative action by other states which are Georgia poultry markets.)

Hatcheries Report Increased Egg Set

SALISBURY, MD. — The nation's broiler chick hatcheries stepped up their egg set last week to 5% more than the previous week and 12% above the same week a year ago.

The hatcheries in the 22 reporting states set 42,585,000 eggs. Increases in the number of eggs set from the previous week were reported in all but two of the 22 states. Largest increases occurred in Georgia, Virginia and Arkansas.

Broiler growers last week placed 29,191,000 broiler chicks. This was 4% less than the previous week but 7% above the corresponding week a year ago.

Decreases in placements from the previous week were reported in all but six of the 22 states. Largest declines occurred in Georgia, Texas and Arkansas.

GMI PROGRAM

(Continued from page 1)

guaranteeing to pay 37¢ doz. for Grade A's or 2¢ over the quoted Kansas City market, whichever was higher.

The present 2¢ premium for Grade A eggs is the arrangement which has applied to eggs of other grades purchased under the program from the start.

More than 150 producers were under the original contract, and Mr. Hurst reports that there are now about 135 under the new contract. The program was to run for at least three years.

Competition for the feed business of the cage producers rose to a high pitch during the period when egg payments from Hurst lagged, according to trade reports.

Despite the difficulties encountered in the Kansas program which led to the change in the contract provisions, the General Mills Sure-Fresh program has shown broad expansion in the past year.

A year ago the Kansas program was the only one in operation. Now 25 licensed distributors are handling eggs under similar programs, General Mills officials say.

These operations are not as large as the Kansas program, which has involved 325,000 to 400,000 birds, but in total they are substantial. The 25 programs range from 15,000 to 75,000 birds at present, it was reported. In Los Angeles 20 supermarkets are now handling Sure-Fresh eggs.

The low egg market of last winter and spring, when eggs were selling for 25¢ and 26¢, caused Hurst to incur large losses in meeting the guarantee. To catch up with these payments, Hurst negotiated a loan which was contingent on removal of the price floor in the egg contract.

Mr. Hurst said that all but three growers gave up their old contracts and in payment thereof received eight shares of Hurst Foods stock and a $600 debenture bond payable in five years. Also, they will have the privilege of electing four directors to the company board of directors, the same representation that Hurst has on the board.

Payment of 2¢ over the Kansas City market quotation means about a 4¢ premium to the producer, Mr. Waters explained. This is because the Kansas City quotation is based on purchase at Kansas City. If a producer did not sell through Hurst, he would pay about 1¢ doz. to the dealer and 1¢ doz. to transport the eggs to Kansas City.

"All parties involved in this egg marketing plan feel that the new arrangement has strengthened the program," Mr. Waters stated.

WILLIAM HUNTER

(Continued from page 1)

of the bureau Feb. 1, 1957, to succeed V. O. Wolcott, who retired.

He became a member of the department Jan. 27, 1936, as a junior cereal chemist in the bureau's feed control laboratory. He advanced to senior cereal chemist Oct. 1, 1937, and was appointed supervising feed chemist Sept. 1, 1944. He became assistant chief of the bureau July 1, 1950.

Mr. Hunter was past president of the Association of American Feed Control Officials and was chairman of the association's committee on medicated feed labeling.

He was a member of the American Chemical Society, Animal Nutrition Research Council, Association of Official Agricultural Chemists, California State Employees Assn., and American Society for Public Administration.

Survivors include his widow, Marion; daughter, Suzanne; son, Stephen; a sister and three brothers.

THE FEED MARKETS

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Demand — Supply — Trends — Prices

Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

Boston: Demand light; supply good; 600 D, 1,500 A 18¢ lb.; 300 D, 2,250 A 18¼¢ lb.; 300 D, 1,500 A 17¢ lb.; 300 D, 750 A 15½¢ lb.

Minneapolis: 10,000 A 35¢ lb.; 300 D, 2,250 A 21½¢ lb.; 300 D, 1,500 A 20¼¢ lb.; 300 D, 75 A 18¾¢ lb.

New York: Trend steady; price per lb. in 55 gal. drums (413 to 420 lb.): 300 ICU, 750 A 13½@15½¢, 1,500 A 15½@17¢, 2,250 A 17½@20¢, 3,000 A 19½@21¢; 600 ICU, 1,500 A 16@18¢, 2,250 A 18@19½¢, 3,000 A 20@21½¢; f.o.b. Massachusetts, New York or Pennsylvania.

Denver: Demand slow; trend unchanged; supply ample; 2,250 A, 300 D 22½¢.

Seattle: Demand slow; trend steady; supply good; 300 D, 2,250 A 22¢ lb., 300 D, 1,500 A 19¢ lb., 300 D, 750 A 17¢ lb., all ex-warehouse, drums included.

Chicago: Demand fair; supply adequate; straight A feeding oil, with 10,000 units vitamin A per gram 7½@8½¢ a million units of vitamin A, l.c.l., packed in 55 gal. drums, f.o.b. Chicago, drums included.

ALFALFA MEAL

Boston: Demand steady; supply adequate; dehydrated, 17% $61.50; suncured, 13% $48.50.

Ft. Worth: Demand fair on dehydrated, slow on suncured; supply adequate; Kansas dehydrated, 17%, 100,000 A $47.50 by truck, $52.75@55.75 by rail; suncured, No. 1, 13% protein, ¼-in. grind, truck $38.

Philadelphia: Demand slow; supply light; 17% dehydrated $62, with 100,000 units A guaranteed.

Portland: Demand slow; trend lower; supply ample; suncured $38.50; dehydrated $66.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $56.20@60.20.

Buffalo: Demand poor; trend steady; supply fair; $63, sacked, Boston.

New Orleans: Demand good; trend unsettled; supply adequate; 17% dehydrated, vitamin A guaranteed $58@59; pellets $54 @55, bulk.

Chicago: Demand fair; supply adequate; 17% dehydrated, with 100,000 units vitamin A guaranteed $49@50; 17% with no A guaranteed $44@45.

Seattle: Demand slow; trend steady; supply good; 15% protein suncured $40, delivered, carlots; 136,000 A unit dehydrated $67, delivered, carlots.

Denver: Demand slow; trend steady; supply ample; 100,000 A, 17% $43.

Minneapolis: Softer trend; demand fair; supplies ample; 17% dehydrated, 100,000 units of vitamin A, reground pellets, sacked $49.25@50.25, bulk $45.25@47.50; granules and oil treated, bulk $47.25@49.

Memphis: Demand poor; trend steady; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $52.

Kansas City: Demand fair to good with most coming from South and East; trend steady to softer; supply adequate, although much of the material remaining in store is of poor quality; dehydrated alfalfa meal with 100,000 units vitamin A and 17% protein guaranteed on arrival $43@47, sacked, with blenders reported to be filling orders at the higher price; 18% protein, 125,000 units A $52, sacked; 17% 100,000 A pellets $38@43, bulk, the lower prices said to be from some producers who are closing out their stocks; non-guaranteed A meal $39@ 41.70 for 17% meal, sacked; suncured alfalfa demand is poor and supplies adequate, prices are unchanged; No. 1 fine ground 15% protein $38, 13% protein $35, No. 1 ¼-in. $32, No. 2 ¼-in. $28, sacked.

Los Angeles: Demand slow; trend easier; supply adequate; dehydrated pellet meal, 17% protein, 100,000 A $48@49; dehydrated meal, 17% protein, 100,000 A $48; suncured crumbles, 15% protein $45@46; suncured meal, 15% protein $43@44.

St. Louis: Demand slow; trend steady; supply ample; 13% fine suncured $40; 17%, 100,000 units of A $49.

ANIMAL FAT (STABILIZED)

Louisville: Bleachable fancy 8¼¢ lb.; white tallow 8% lb.; yellow grease 6¾¢ lb.

Ft. Worth: Demand good; supply adequate; prime tallow, tank cars 8¾¢ lb.; drums 10¼¢ lb., f.o.b. north Texas packing plants with returnable drums.

St. Paul: Supplies extremely tight; scarcity of offerings; price still quoted at 8¢ for bleachable fancy tallow.

Kansas City: Demand good; trend steady; supply limited; bleachable fancy tallow 8¼¢ lb. in tank cars.

San Francisco: Demand fair; supply ample; bleachable fancy 8¾¢ lb.; yellow grease 7¾¢ lb.

New Orleans: Demand good; supply ample; trend stronger; 7¾@8¢ lb., tank cars; drums 10@10¼¢ lb.

Chicago: Demand good; supply short; bleachable fancy tallow, tank truck or carlots 8¼¢ lb.; yellow grease 7½¢ lb.

Denver: Demand good; trend firm; supply short; bleachable fancy 7¾¢ lb.

BARLEY FEED

Philadelphia: Demand slow; supply fair; pulverized $45.

Portland: Demand slow; supply ample; trend unchanged; rolled $58, ground $56.

Boston: Demand slow; supply light; $45.

Ogden: Supply normal; rolled $41@45; whole $34@39.

Seattle: Demand fair; trend firmer; supply good; whole $56, ground $56, rolled $58, all ex-warehouse, l.c.l., sacked.

Los Angeles: Demand fair; trend unchanged; supply ample; standard rolled $2.95 cwt., sacked; standard ground $2.95 cwt., sacked.

Milwaukee: Demand good; supply fair; needles 83¢@$1.06; ground $25, sacked, Milwaukee.

Baltimore: Demand fair; supply adequate; $45.40.

San Francisco: Demand fair; supply ample; rolled $58, ground $57.

Chicago: Demand fair; supply light; $35.

New Orleans: Demand fair; trend firmer; supply ample; $66@67.

BENTONITE (SODIUM)

Cincinnati: Demand steady; supply adequate; f.o.b. Cincinnati, minimum 30-ton carlots: 80 granular $30.21; 200 mesh fine $29.96.

Chicago: Demand steady; supply adequate; f.o.b. Wyoming and South Dakota shipping points: granular, 30 mesh $16.50; fine granular, 80 to 100 mesh $13.75; powder, 200 mesh $13.50; f.o.b. Belle Fourche, S.D., minimum 30-ton carlots; 80 granular $13.50 net; 200 mesh fine $13.25 net.

Denver: Demand fair; trend unchanged; supply ample; $13.50, f.o.b. Wyoming and South Dakota shipping points.

BLOOD FLOUR

Louisville: Demand good; trend strong; supply light; $100@110.

BLOOD MEAL

Louisville: Demand good; trend strong; supply light; $100@110.

Portland: Demand slow; supply ample; trend unchanged; $110.

Cincinnati: Demand good; trend strong; supply short; $120.

Ogden: Supply normal; $115 in 100-lb. bags, f.o.b. Ogden.

Denver: Demand slowed by price; trend very strong; supply short; $122.50.

Los Angeles: Demand and trend strong; supply very short; $7.50@8 a unit of ammonia.

New Orleans: Demand slow; trend steady; supply ample; $105@110.

San Francisco: Demand good; supply tight; $7.25 a unit of ammonia.

Chicago: Demand slow; supply limited; nominally $130@150, guaranteed 80% protein.

BONE MEAL (STEAMED)

Louisville: Demand good; trend steady; supply light; $80@90.

Ft. Worth: Demand fair; supply adequate; $85, sacked, f.o.b. Ft. Worth, local manufacture.

Boston: Demand and supply steady; $87.

Portland: Demand slow; supply ample; trend unchanged; $95.

Cincinnati: Demand fair; trend easy; supply ample; $100, sacked, Cincinnati.

Seattle: Demand steady; trend easy; supply good; $85, ex-dock, truck lots.

Denver: Demand fair; trend steady; supply ample; $75, f.o.b. West Coast.

Los Angeles: Demand fair; trend steady; supply adequate; imported $66.50 in 20-ton lots.

New Orleans: Demand slow; trend steady; supply ample; $85, ex-dock; $90, trucks.

San Francisco: Demand good; supply ample; $75.

Buffalo: Demand good; trend steady; supply limited; $90, sacked.

Chicago: Demand fair; supply limited; $85@90.

BREWERS DRIED GRAINS

Philadelphia: Demand slow; supply light; $58.

Louisville: Demand fair; trend steady; supply ample; $49.

Ft. Worth: Demand slow; supply moderate; 26% $54.85, delivered Ft. Worth.

Boston: Demand steady; supply ample; 26% domestic $56@57; Canadian $52@53; 22% $52.

Cincinnati: Demand poor; trend steady; supply fair; $53.

St. Louis: Demand good; trend steady; supply ample; $46.

Los Angeles: Demand and trend steady; supply limited; $49 bulk, $53 sacked.

New Orleans: Demand slow; trend easier; supply light; $57@57.85.

Buffalo: Demand fair; trend higher; supply fair to poor; $50 bulk, Boston.

San Francisco: Demand fair; supply ample; $54.

Milwaukee: Demand good; supply fair; $46.

Chicago: Demand fair; supply adequate; 26% $46.50@47.

BREWERS DRIED YEAST

Boston: Demand and supply steady; 11¢ lb.

Louisville: Demand slow; trend steady; supply good; 10@10½¢ lb.

Portland: Demand good; supply ample; trend unchanged; 8¼¢ lb.

Buffalo: Demand fair; trend steady; supply ample; $10 cwt.

Denver: Demand fair; trend unchanged; supply ample; $10 cwt.

Seattle: Demand slow; trend steady; supply ample; $12 cwt.

Los Angeles: Demand and trend steady; supply limited; 10¢ lb. in 5-ton lots; 11¢ lb. in less than 5-ton lots.

San Francisco: Demand fair; supply good; 10¢ lb.

Chicago: Demand good; supply limited; 10@11½¢ lb. in carlots; 10¼@12½¢ lb., l.c.l.

St. Louis: Demand good; supply limited; 10¢ lb., in carlots; 11¢ lb. in ton lots; 12¢ lb. in less than ton lots.

Cincinnati: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New York: Carlots 9¾¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10½¢ lb., ton lots 11¢ lb., f.o.b. New Jersey.

Milwaukee: Demand good; supply limited; 10¼@11¾¢ lb. in carlots; 10¾@12½¢ lb., l.c.l.

BUTTERMILK-CONDENSED

Boston: Demand slow; supply light; 3½¢ lb.

Philadelphia: Demand slow; supply fair; $4.25 cwt.

Ogden: Supply average; $4.40, 100-lb. drum.

San Francisco: Demand fair; supply good; $5 cwt.

New Orleans: Demand slow; trend steady; supply light; $4.25@4.40 cwt.

Chicago: Demand slow; supply adequate; $3.25@3.50 cwt. in carlots.

Los Angeles: Demand better; supply adequate; trend steady; 5¼¢ lb. in 100-lb. lots; 4¼¢ lb. in 500-lb. lots.

CALCIUM CARBONATE

Cincinnati: Demand fair; trend steady; supply adequate; $8@9 cwt.

Seattle: Demand and trend steady; supply good; $14, ex-warehouse, truck lots.

Chicago: Demand steady; supply adequate; fine grind, plain $9.76; bulk, in hopper cars $7.67; bulk in boxcars $8.17; granular grind $1 premium.

Los Angeles: Demand slow; supply ample; trend steady; $10.25.

Minneapolis: Fine grind: 50-lb. bag $12.25, 10-lb. bag $11.50; bulk, box car $10; bulk, hopper $9.50; coarse grind $1 premium, delivered Minneapolis.

CALCITE CRYSTALS AND FLOUR

(All prices net, including freight and tax)

New York: Crystals $15.30, flour $10.30.

Buffalo: Crystals $16.16, flour $11.16.

Toledo: Crystals $18.06, flour $13.06.

Boston: Crystals $16.69, flour $11.69.

Limecrest, N.J.: Crystals $10.50, flour $5.50.

CHARCOAL

Boston: Demand and supply light; $95, nominal.

Cincinnati: Demand good; trend steady; supply adequate; briquets $120, 25-lb. bags, f.o.b. warehouse, Cincinnati.

Los Angeles: Demand slow; trend steady; supply ample; hardwood poultry $156, sacked, in less than ton lots; $144.50, sacked, in ton lots.

San Francisco: Demand steady; supply ample; $141.

Chicago: Demand quiet; supply adequate; poultry charcoal $106 in 50-lb. multiwalls.

COCONUT MEAL

Portland: Demand slow; supply ample; trend lower; $60.

Seattle: Demand and trend steady; supply ample; $62, ex-dock, truck lots.

Los Angeles: Demand limited; trend steady; supply adequate; copra cake $57@ 58, offshore, March-April.

San Francisco: Demand fair; supply ample; solvent $53, expeller $57.

COD LIVER OIL (FORTIFIED)

Boston: Demand light; supply good; 600 D, 2,250 A 21¢ lb.; 300 D, 2,250 A 20¢ lb.; 300 D, 1,500 A 17½¢ lb.

New York: Trend steady; price per lb. in 55 gal. drums (413 to 420 lb.): 300 ICU, 750 A 14½@15½¢, 1,500 A 16½@19¢, 2,250 A 18½@21¢, 3,000 A 21½@23¢; 600 ICU, 1,500 A 17½@19½¢, 2,250 A 20@22¢, 3,000 A 22@23¢; f.o.b. Massachusetts, New York or Pennsylvania.

CONDENSED FISH SOLUBLES

Boston: Demand good; supply short; 5¢ lb., nominal.

Denver: Demand fair; trend steady; supply tight; $192.25, dried.

Los Angeles: Demand and trend steady; supply limited; 5½¢ lb.

New York: Demand good; trend higher; supply fair; 5¢ lb., f.o.b. eastern shore.

New Orleans: Demand fair; trend about steady; supply light; menhaden 50% solids $98@100, f.o.b. Gulf.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis, bulk basis $5 less)

Minneapolis: Feed $54.80, meal $84.80.
Atlanta: Feed $60.98, meal $90.98.
Birmingham: Feed $59.64, meal $89.64.
Boston: Feed $58.84, meal $88.84.
Chicago: Feed $48, meal $78.
Cleveland: Feed $56.14, meal $86.14.
Denver: Feed $58.51, meal $88.51.
Ft. Worth: Feed $56.96, meal $86.96.
Indianapolis: Feed $53.36, meal $83.36.
Kansas City: Feed $48, meal $78.
Louisville: Feed $55.21, meal $85.21.
New Orleans: Feed $58.20, meal $88.20.
New York: Feed $59.43, meal $89.43.
Norfolk: Feed $58.71, meal $88.71.
Philadelphia: Feed $59.02, meal $89.02.
Pittsburgh: Feed $56.96, meal $86.96.
St. Louis: Feed $48, meal $78.

CORN OIL MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $61.

Louisville: Demand dull; trend strong; supply light; $52.68.

COTTONSEED OIL MEAL

Philadelphia: Demand slow; supply light; $81.50.

Ft. Worth: Demand good; limited offerings on old process, sufficient on solvent; carlots: 41% old process $58.50@59.50 f.o.b. central Texas, $60 f.o.b. Ft. Worth area; solvent 41% low gossypol $56@57, delivered Ft. Worth; pellets $2 additional; cottonseed hulls $20, f.o.b. Ft. Worth.

Portland: Demand slow; supply ample; trend unchanged; truck $58, rail $68.50.

Wichita: Demand slow; supply ample; 41% old process $67.

Louisville: Demand fair; trend stronger; supply ample; old process $74.50; new process $73.

Boston: Demand fair; supply light; $81.75.

Ogden: Supply normal; 41% $65@70.

Cincinnati: Demand poor; trend steady; supply fair; solvent $73.50, old process $76.

New Orleans: Demand dull; trend unsettled; supply light; 41% old process $83@ 84.50.

Chicago: Demand slow; supply adequate; hydraulic $75.50@76; solvent $74@74.50.

Denver: Demand fair; trend steady; supply ample; 2% fat $61, 41%.

Kansas City: Demand slow; trend steady; supply adequate for demand but not liberal and tight in Memphis area; old process meal coming from Texas called $67@ 67.50, sacked, Kansas City; solvent meal, also from Texas $62@63, sacked, Kansas City.

Memphis: Demand light; trend steady; supply scarce; prime 41% protein, old process $63.50, sacked; new process, 41% solvent $62.50, nominal, sacked.

Los Angeles: Demand slow; trend steady; supply adequate; local production 40% protein $50@51.

Seattle: Demand fair; trend firmer; supply good; 41% expeller process $63, delivered, truck lots.

St. Louis: Demand slow; trend higher; supply limited; $70.30.

Atlanta: Demand good; trend strong; supply limited; 41% $71, sacked, immediate.

Buffalo: Demand poor; trend steady to higher; supply adequate; $82, sacked, Boston.

San Francisco: Demand good; supply ample; expeller $51.50, solvent $51.

CURACAO PHOSPHATE

New York: Trend steady; ground Curacao phosphate in 100-lb. bags $48 ton, f.o.b. cars or trucks, New Orleans, Jacksonville, Fla., or Philadelphia.

D ACTIVATED ANIMAL STEROL, POWDERED

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 18¢ lb., warehouse.

Kansas City: Demand fair; trend steady; supply ample; 1,500 ICU 9½@10¢ lb.; 3,000 ICU 11½@12¢ lb., ton lots or larger.

New York: Trend steady; price per lb. in 50- and 100-lb. bags or 100-lb. drums: 1,500 ICU 8@12¢ bagged, 12@13¢ drums; 3,000 ICU 13@17¢ bagged, 17@18¢ drums; f.o.b. or delivered basis Pennsylvania, Delaware or New York.

D ACTIVATED PLANT STEROL, POWDERED

Chicago: Demand good; supply moderate; 4,000,000 U.S.P. units per lb., 15¢ lb. in ton lots; less than ton lots 17¢ lb.; 12,000,000 units per lb., 5 tons to a carload 28¢ lb.; ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Tupelo, Miss.: Minimum phosphorus 13%, minimum calcium 31%, maximum fluorine .12%, $51 net ton, f.o.b. Tupelo in 100-lb. multiwall bags, $48 in bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum calcium 36%, maximum fluorine .18% $69.12 net ton, f.o.b. Wales, in 100-lb. multiwall bags, $3 less in bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $69.50 net ton, f.o.b. Houston, 100-lb. multiwall paper bags; $66.50 in bulk.

Coronet, Fla.: Minimum phosphorus 17%, minimum calcium 34%, maximum fluorine .17%, carload $60, truckload $60.75, net ton, f.o.b. Coronet in 100-lb. multiwall bags, $57 and $57.75 in bulk.

Cincinnati: 18% phosphorus $81, sacked; 13% phosphorus $64.98, sacked, f.o.b. Cincinnati.

DICALCIUM PHOSPHATE

Texas City, Texas: 18.5% minimum phosphorus, 25% minimum calcium, 28% maximum, 0.11% maximum fluorine, granular $77.70 net ton, f.o.b. Texas City in 100-lb. multiwall bags, bulk, boxcars and hoppers, $3 net ton less than bagged material.

Columbia, Tenn.: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $83.25, f.o.b. Columbia, in 100-lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Chicago: Stock food grade, 18.5% phosphorus, 20,000 lb. or more $83.25 net ton in 100-lb. papers, basis Chicago Heights, Ill., or Nashville, Tenn.; less than 20,000 lb. $93.25; 21% phosphorus, 20,000 lb. or more, $94.50, basis Chicago Heights and Nashville; less than 20,000 lb. $104.50; bulk boxcars or hoppers $3 net ton less than bagged material.

Bonnie, Fla.: Minimum phosphorus 18½%, granular $83.25; freight equalized with closest producing point, carload basis.

Minneapolis: 18.5% phosphorus, 24% calcium granular or fine ground $94.10, delivered; $3 less in bulk.

Trenton, Mich.: Minimum phosphorus 18½%, maximum fluorine .03% guaranteed $83.25, f.o.b. Trenton in 100-lb. multiwalls; minimum phosphorus 21%, maximum fluorine .03% guaranteed $94.50, f.o.b. Trenton in 100-lb. multiwall bags.

Denver: Demand improved; trend unchanged; supply ample; 18.5% $77.70, f.o.b. Texas City.

Portland: Demand slow; supply ample; trend unchanged; $115.

Cincinnati: 18½% phosphorus $92@93.

DISTILLERS DRIED GRAINS

Louisville: Demand good; trend steady; supply ample; bourbon grains: light $53, dark $54, solubles $72.

Boston: Demand active; supply spotty; light and dark $63.

Philadelphia: Demand dull; supply light; $61.50.

Cincinnati: Demand fair; trend steady; supply adequate; light $57.50, dark $58; by truck, dark $50.

Seattle: Demand fair; trend steady; supply ample; $63, delivered, truck lots.

Buffalo: Demand good; trend steady to higher; supply fair; $58.50, bulk, Boston.

San Francisco: Demand fair; supply ample; solubles $85.

DRIED BEET PULP

Ft. Worth: Demand slow; supply sufficient; carlots, 50-lb. papers $58.70, March, delivered Ft. Worth.

Cincinnati: Demand fair; trend steady; supply adequate; $55.

Portland: Demand good; supply ample; trend unchanged; $50.

Boston: Demand fair; supply short; $61.

Ogden: Supply normal; $38@42.

Atlanta: Demand slow; trend steady;

supply ample; $64.50, sacked, immediate.

San Francisco: Demand good; supply fair; $43.02.

Buffalo: Demand and supply fair; trend steady; $62.50, sacked, Boston.

Milwaukee: Demand good; supply fair; plain $50, molasses $50.

New Orleans: Demand good; trend steady; supply ample; $55@57.50.

Los Angeles: Demand and trend steady; supply adequate; molasses $45.50.

Seattle: Demand slow; trend steady; supply good; $43, delivered, carlots.

DRIED BUTTERMILK

Ft. Worth: Demand very slow; supply sufficient; local production $10 cwt., f.o.b.

Wichita: Demand slow; supply sufficient; $8 cwt.

Louisville: Demand fair; trend steady; supply normal; 10½@11¢ lb.

Ogden: Supply normal; $7.25, 100-lb. bag.

Minneapolis: Very firm trend; good demand; tight supplies; $9.75 cwt.

Los Angeles: Demand fair; trend steady; supply adequate; 11¢ lb.

Milwaukee: Demand good; supply fair; $10.25 cwt.

San Francisco: Demand fair; supply ample; 11¢ lb.

Buffalo: Demand good; trend firmer; supply limited; $10.90 cwt.

Chicago: Demand good; supply scarce; medium acid $9.50@9.75; sweet cream $9.50@9.75 cwt. in carlots.

DRIED CITRUS PULP

Boston: Demand and supply fair; $44, f.o.b. Florida.

Buffalo: Demand and supply fair; trend steady; $45, sacked, f.o.b. Florida points.

San Francisco: Demand good; supply fair; pulp $52.

Atlanta: Demand good; trend steady; supply ample; $53, sacked, immediate; meal $44, sacked, immediate.

Los Angeles: Demand good; trend steady; supply very, very limited; orange pulp; $39 bulk, $44 sacked; lemon pulp; $37 bulk, $42 sacked.

DRIED SKIM MILK

Portland: Demand good; supply ample; trend unchanged; $13 cwt.

Philadelphia: Demand dull; supply fair; $12.50 cwt.

Boston: Demand fair; supply tight; 12¢ lb. in carlots.

Louisville: Demand fair; trend steady; supply normal; 11½@12¢ lb.

Cincinnati: Demand fair; trend steady; supply adequate; 10½@11¢.

Ogden: Supply normal; $15.15, 100-lb. drum.

Minneapolis: Steady trend; good demand; ample supplies; $10.75@11.

Los Angeles: Demand better; supply adequate; trend steady; 14¢ lb. in less than ton lots; 12¾¢ lb. in ton lots.

Buffalo: Demand fair; trend steady; supply ample; spray $10.65 cwt., rolled $11.50 cwt.

San Francisco: Demand and supply fair; 13¾¢ lb.

Milwaukee: Demand good; supply fair; $11 cwt.

Chicago: Demand improved; supply tightening; $10.25@10.50.

DRIED WHEY

Boston: Demand steady; supply plentiful; $5.90 cwt.; small lots 6¼¢ lb.

Ft. Worth: Demand fair; supply adequate; carlots, standard $6.10 cwt., sacked, delivered Ft. Worth or any Texas point or in ton lots, f.o.b. warehouse, Ft. Worth.

Louisville: Demand fair; trend firm; supply ample; 6@6½¢ lb.

Philadelphia: Demand slow; supply fair; $6.25 cwt.

Portland: Demand good; supply ample; trend unchanged; $6.05 cwt.

Cincinnati: Demand fair; trend steady; supply adequate; $5.35 cwt.; sweet $5.75 cwt.

Ogden: Supply normal; $6.90, 100-lb. bag.

Minneapolis: Steady trend; good demand; ample supplies; $5.40@5.60; other sources quote $5.10, f.o.b. producers' points for both regular and partially delactosed.

Kansas City: Demand fair; trend steady; supply light; $5.10 cwt., f.o.b. producers' points for both regular and partially delactosed.

Denver: Demand improved; trend unchanged; supply ample; $7 cwt., $6.10 carlots.

Seattle: Demand and trend steady; supply good; $6.25 cwt., ex-warehouse, l.c.l.

Los Angeles: Demand slow; trend steady; supply adequate; $5.75 cwt. in carloads; $6 cwt. in l.c.l.

San Francisco: Demand steady; supply good; $5.50 cwt.

Chicago: Demand good; supply ample; $5.10 cwt., f.o.b. plant.

FEATHER MEAL (HYDROLYZED)

Boston: Demand steady; supply plentiful; $78, f.o.b. plant.

Ft. Worth: Demand good; supply very limited; nominal $90, f.o.b. trucks, north Texas plant.

Los Angeles: Demand good; trend firmer; supply limited; $1.25 a unit of protein.

Atlanta: Demand good; trend strong; supply limited; $89, sacked, immediate.

Salisbury, Md.: Trend steady; demand good; supply ample; $88, f.o.b. plants, sacked.

FISH MEAL

Boston: Demand and supply steady; 60% $128@130.

Ft. Worth: Demand good; none available, immediate; imported Angola sardine 60% protein $140, ex-dock, Houston, immediate-first week April.

Louisville: Demand slow; trend steady; supply light; $120@130.

Ogden: Supply normal; $2.20 a unit, f.o.b. Coast; 65% $151@153.

Cincinnati: Demand fair; trend steady; supply adequate; $120@130.

Portland: Demand good; supply scarce; trend higher; $2.35 a unit, f.o.b. Vancouver.

Atlanta: Demand fair; trend steady; supply limited; 60% $135, sacked, immediate.

Milwaukee: Demand good; supply fair; 60% $157, Milwaukee.

Seattle: Demand fair; trend steady; supply adequate; sardine imported Angola 60% $129@130, burlaps, Gulf; mixed meal Peru, 60% $129@130, burlaps, Gulf.

San Francisco: Demand fair; supply ample; Peruvian $2.35 a unit of protein.

Buffalo: Demand good; trend strong; supply limited; 60% protein menhaden $140 bulk, $145 sacked.

Chicago: Demand good; supply limited; eastern menhaden fish meal, 60% protein $130@134; western blended, 60% protein $155; Gulf, none available; Northwest herring-salmon blend $137; Canadian herring, 73% protein $2.30@2.35 a unit of protein; 60% blended $154, delivered Midwest points.

Minneapolis: Firm trend; fair demand; adequate supplies; 70% herring, West Coast $2.30; 60% meal, delivered, Minneapolis $150.

Denver: Demand fair; trend steady; supply ample; 70% herring $2.25 a unit, f.o.b. Seattle; 60% menhaden $132, f.o.b. Gulf.

Seattle: Demand fair; supply ample; $2.40 a unit protein, f.o.b. truck, Vancouver, B.C.

Los Angeles: Demand good; trend firm; supply limited; local production, 60% protein $2.35@2.40 a unit of protein.

HAY

Philadelphia: Demand slow; supply light; $32@35.

Louisville: Demand very good; trend steady to easy; supply good; No. 1 hay, any variety of local $23@25; No. 2 hay, any variety of local $20@23; straw $18@20.

Portland: Demand slow; supply ample; trend unchanged; $25.

Ft. Worth: Demand fair for alfalfa, practically nil for prairie and Johnson grass; supply sufficient; carlots, baled, No. 1 alfalfa $38@40, No. 2 $36@38; prairie No. 2 $26@28; No. 2 Johnson grass $24@26, delivered Texas common points.

Wichita: Demand slow; supply ample; prairie $14@18, alfalfa $14@18.

Boston: Demand steady; supply ample; No. 2 timothy $38@40.

Cincinnati: Demand improving; trend steady to higher; supply adequate; No. 1 timothy $22.50; No. 1 red clover $25; No. 1 second cutting green alfalfa $30; No. 1 red clover mixed $27; wheat or oat straw $23.

Ogden: Supply average; $1 bale; $16 in the barn.

Seattle: Demand slow; trend weak; supply good; U.S. No. 2 green, alfalfa $22, delivered, truck lots.

Los Angeles: Demand slow; moderate offerings; new crop Imperial Valley No. 1 $34@36; U.S. No. 1 $31@33; U.S. No. 2 leafy $29@30; U.S. No. 2 green $29@30; No. 2 $26@27.

HOMINY FEED

Louisville: Demand fair; trend stronger; supply normal; $46.20.

Boston: Demand steady; supply adequate; $53.50.

Cincinnati: Demand fair; trend steady; supply adequate; $47.50.

Chicago: Demand fair; supply improving; $45@45.50.

Milwaukee: Demand good; supply fair; $45, sacked, Milwaukee, April.

Buffalo: Demand fair to good; trend steady; supply good; $50, bulk, Boston.

Memphis: Demand nil; trend steady; supply ample; white $47, yellow $47.

Kansas City: Demand fair; trend steady; supply adequate for present demand; yellow $41, sacked, $3.50 less for bulk; white $39, sacked.

St. Louis: Demand fair; trend lower; supply ample; yellow $44.

Seattle: Demand slow; trend easy; supply good; $53, delivered, sacked, carlots.

LINSEED OIL MEAL

Ft. Worth: Demand slow; supply adequate; carlots, 34% extracted, March-April $76.75.

Wichita: Demand fair; supply sufficient; 34% $75.50.

Boston: Demand and supply light; $71.50.

Louisville: Demand fair; trend easy; supply normal; old process $74.25; new process $70.25.

Philadelphia: Demand and supply fair; 34% $73.

Portland: Demand slow; supply ample; trend unchanged; $73.

Cincinnati: Demand and supply fair; trend steady; new process $67; old process $72.

San Francisco: Demand fair; supply ample; $68.

Milwaukee: Demand good; supply fair; old process $66.25; new process $61.75.

Chicago: Demand fair; supply adequate; solvent $63@63.50; expeller $68@68.50.

Minneapolis: Strong trend; good demand; ample supplies; $51.50, bulk, Minneapolis.

Denver: Demand fair; trend firm; supply ample; 34% $74.

Kansas City: Demand slow; trend steady; supply tightening; solvent meal $55, bulk, Minneapolis; old process meal $51.

Seattle: Demand slow; trend easy; supply ample; $73, delivered, carlots, 34% protein.

Los Angeles: Demand slow; trend steady; supply adequate; local production, 29% protein $61@62.

MALT SPROUTS

Milwaukee: Demand good; supply fair; oddweights $33; evenweights $34.50.

Chicago: Demand fair; supply adequate; No. 1 $32@32.50.

Boston: Demand spotty; supply limited; $44.50 in bulk.

Cincinnati: Demand fair; trend steady; supply adequate; No. 1 $40.

MEAT AND BONE MEAL

Cincinnati: Demand good; trend strong; supply very short; 50% meat and bone scraps $103, sacked, f.o.b. Cincinnati.

Ft. Worth: Demand good; supply extremely light; meat and bone, 50% $110@115, f.o.b. or delivered Ft. Worth.

Wichita: Demand good; supply insufficient; 50% $112.50, f.o.b. plant; 55%, no quotations, no offerings.

Portland: Demand slow; supply ample; trend higher; $1.85 a unit.

Boston: Demand good; supply tight; $1.85 a protein unit; converted 50% $95.

Louisville: Demand good; trend strong; supply light; $92.50@97.50.

Ogden: Supply normal; $105 in 100-lb. bags.

San Francisco: Demand good; supply fair; $2.10 a unit of protein.

Buffalo: Demand strong; trend higher; supply limited; 50% meat scraps $105 bulk, $110 sacked.

Chicago: Demand good; supply limited; 50% protein $102.50@107.50.

Denver: Demand slowed by high price; trend strong; supply short; 50% $102.50.

New York: Demand excellent; trend steady; supply short; 50% $98.50, 55% $102.50, bulk; 50% $101.50, 55% $105.50, sacked.

St. Paul: Market more settled; slower demand; supplies still tight; 50% meat and bone $118@123.

Seattle: Demand good; trend strong; supply poor; $95, ex-warehouse, 50% protein.

Kansas City: Demand good, although some buyers back away from high prices and won't book ahead; trend strong; supply tight; 50% meat and bone scraps $110@113, sacked.

Los Angeles: Demand good; trend firm; supply very limited; 50% protein, nominal $2.10@2.15 a unit of protein.

St. Louis: Demand good; trend higher; supply tight; $118.

MILLFEEDS

Minneapolis: Weaker trend; demand off from week previous; supplies tight for March; bran $40@41.50, standard midds. $39.50@40, flour midds. $42@43.50, red dog $43@45.

Kansas City: Demand not so strong, especially on bulk feeds; trend weaker on bulk feeds, steady on sacked; supply plentiful with middlings pressing; bran $38@38.75, shorts $38.25@39, sacked; bran $34@

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34.75, shorts $35.25@36, middlings $34.75@35.50, bulk.

Wichita: Demand fair; supply about offsets demand; basis Kansas City: bran $34.75@39.25, shorts $38.75@39.25; bran 25¢ lower, shorts 25¢ higher, compared with the preceding week.

Ft. Worth: Demand diminishing; offerings increasing; carlots, burlaps, prompt, bran $46.50@47.50; gray shorts $46.50@47.50, delivered Texas common points; $1 lower on both bran and shorts compared with previous week.

Chicago: Some of the steam went out during the week ending March 19. This was apparent with a topping off of some types, while others failed to gain as much as during recent previous periods. Some market men said supplies are becoming more plentiful, although nearby still is tight. Quotations: bran $47, standard midds. $46.50, flour midds. $47@48, red dog $49@51.

Cincinnati: Demand fair; trend steady; supply fair; bran and middlings $53.40.

St. Louis: Demand good; trend steady; supply ample; bran $43.25@43.75, shorts $43.50@44, sacked; bran $39@39.50, shorts $40.50@41, middlings $40@40.50, bulk.

Boston: Demand steady; supply tight; bran $57, middlings $57, both for first half April.

Buffalo: Consumer resistance to high prices and some switching to comparable feeds caused a sharp drop in millfeeds last week. Mixer business was down and replacements were being curtailed. Bran ended off $3.50 and middlings were down $3. Red dog was in short supply and up $1@1.50. Quotations March 19: bran $46.50@47.50, standard midds. $47@48, red dog $55@56.50; the bulk differential on both bran and middlings was $4.50.

New York: Demand and supply fair; trend lower; bran $56.50@57.50; standard midds. $57.50@58.50.

Philadelphia: Demand slow; supply fair; bran $54.50, standard midds. $54.50, red dog $65.

Louisville: Demand fair; trend slightly stronger; supply ample; bran $50.50, mixed feed $51, middlings $54, shorts $52.

Memphis: Demand poor; trend lower; supply ample; wheat bran $47, gray shorts $47, standard midds. $47.

Seattle: Demand fair; trend steady; supply ample; $40, delivered common transit points, carlots.

Portland: Demand slow; supply ample; trend lower; $38.

Ogden: Supply normal; to Utah and Idaho: red bran and mill run $35, middlings $40; to Denver: red bran and mill run $42, middlings $47; to California: red bran and mill run $42.50, middlings $47.50, f.o.b. San Francisco and Los Angeles.

Denver: Demand good; trend firm; supply ample; bran $42.25, shorts $42.25, mill run $42.25.

San Francisco: Demand fair; supply ample; millfeed $46, red bran $53.

Los Angeles: Demand slow; trend easier; supply more plentiful; standard mill run $46@46.50; red bran $54@55.

MINERAL FEED

Ft. Worth: Demand fair; supply ample; all-purpose granules $89, block $94; mineral phosphorus 6% granules $105, block $110; cattle-sheep mineral 7% phosphorus granules $99, block $103; hog mineral phosphorus 3½% granules $88, phosphorus 2% $78 (all in 50-lb. paper bags).

Wichita: Demand good; supply adequate; all-purpose with iodine, 50-lb. blocks $95; 100-lb. bags $90, f.o.b. plant.

Portland: Demand slow; supply ample; trend unchanged; $42.

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Ogden: Supply normal; $110 in 50-lb. blocks; $98, granular, 50-lb. bags.

Sioux City: 50-lb. mineral blocks 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.

San Francisco: Demand steady; supply good; all-purpose with iodine $70.

Denver: Demand spotty; supply ample; trend unchanged; 7.5% phenothiazine, 45-lb. block $4.50; 8.2% phosphorus, 50-lb. block $3.50; 7.5% phenothiazine, 8.2% phosphorus, 45-lb. block $5.25; 8% phosphorus, 50-lb. block $2.85.

Seattle: Demand fair; trend steady; supply good; mixer mineral $48, ex-warehouse; all-purpose mineral $35, ex-warehouse.

MOLASSES

Buffalo: Demand and supply good; trend steady; 18½¢ gal., f.o.b. Albany.

San Francisco: Demand and supply good; $24, f.o.b. cars, Richmond, Cal.

Milwaukee: Demand fair; supply good; blackstrap 14¢ gal., f.o.b. New Orleans.

New Orleans: Demand fair; trend steady; supply adequate; 14¢ gal., tank cars and trucks; 600-lb. customers' drums $9.11.

Ft. Worth: Demand fair; supply sufficient; blackstrap 14¢ gal., f.o.b. Houston; delivered Ft. Worth truck $32.49, seller's market price on date of shipment.

Boston: Demand steady; supply plentiful; 18⅛¢ gal. in tank cars.

Louisville: Demand fair; trend stronger; supply normal; 13½¢ gal., tank car lots, f.o.b. Gulf ports.

Cincinnati: Demand fair; trend higher; supply adequate; 14¢ gal., New Orleans.

Denver: Demand fair; trend steady; supply ample; tank car $46.

Memphis: Demand good; trend steady; supply ample; blackstrap 14¢ gal., tank car, f.o.b. New Orleans, and $29.84, delivered Memphis, truck.

Minneapolis: Firm trend; good demand; ample supplies; 14¢ gal., f.o.b. New Orleans.

Atlanta: Demand fair; trend steady; supply ample; citrus $18, bulk, f.o.b. Florida producing points, immediate.

Kansas City: Demand improved slightly; trend stronger following sale of Cuban material at higher level; supply adequate; for immediate 13⅜¢ gal., tank car, New Orleans; March quoted at 14¢, April at 14⅛¢ and May at 14⅜¢.

Seattle: Demand fair; trend steady; supply good; $24, f.o.b. Seattle, tank car lot or truck lots.

Los Angeles: Demand better; supply ample; trend steady; $24, bulk, f.o.b. tank car; $24.25, bulk, f.o.b. tank trucks.

St. Louis: Demand fair; trend higher; supply ample; 14¢ gal., New Orleans.

New York: Demand and supply good; trend steady; blackstrap 18¢ gal., tank cars, tank wagons, f.o.b. New York.

NIACIN

New York: Trend steady; $8 kilo, 50-kilo lots; $8.10 kilo, 10-kilo lots; $8.20 kilo, 5- and 2½-kilo lots; $8.30 kilo, 1-kilo lots; freight prepaid or paid to destination.

OAT PRODUCTS

Ft. Worth: Demand fair; supply sufficient; oat millfeed $38.95; reground oat millfeed, 3% protein, sacked $23.45, 8% protein, bulk $27.

Portland: Demand slow; supply ample; trend unchanged; rolled $59, ground $56, cleaned $59.

Philadelphia: Demand slow; supply fair; pulverized white $53; Canadian oat feed $29.50; domestic $26.50.

Boston: Demand and supply fair; white pulverized $54; Canadian reground oat feed $24.50.

Louisville: Demand fair; trend steady; supply normal; reground $23, rolled $38.50, feeding $31, pulverized $50.50, crimped $69.

Cincinnati: Demand fair; trend steady; supply adequate; reground oats $20; pulverized white oats $49; rolled oats $37.

New Orleans: Demand fair; trend firm; supply ample; ground $70@70.50; pulverized $70.50@71.

Chicago: Demand fair; supply adequate; reground oat feed $15@15.50; fine ground feeding oatmeal $69@70; feeding rolled oats $31.

Memphis: Demand poor; trend steady; supply ample; 3½% protein, reground oat feed $21.50.

Minneapolis: Firm trend; fair demand; ample supplies; feeding rolled $31@34; pulverized $43; feeding oatmeal $68@69; crimped $60.50; reground $14.50@17.

Seattle: Demand fair; trend firmer; supply ample; whole oats $59, ground oats $59, rolled oats $61, all ex-warehouse, l.c.l., sacked.

Los Angeles: Demand fair; trend firmer; supply ample; pulverized, local production $60.

OYSTER SHELL

New Orleans: Demand fair; trend steady; supply adequate; $15@16, local origin.

San Francisco: Demand fair; supply ample; local $15, eastern $26.

Portland: Demand good; supply ample; trend unchanged; western $32, eastern $38, granite grits $26, shell flour $16.

Boston: Demand and supply steady; in paper $25.36.

Louisville: Demand fair; trend steady; supply good; in 80-lb. paper bags $23.17, in 50-lb. paper bags $23.42, in 25-lb. paper bags $25.67.

Cincinnati: Demand fair; trend steady, supply adequate; $21.75.

Seattle: Demand and trend steady; supply good; eastern $40, l.c.l., ex-warehouse.

Los Angeles: Demand fair; trend steady; supply ample; $14.50.

PEANUT OIL MEAL

Milwaukee: Demand and supply fair; 26% $36.

Atlanta: Demand fair; trend strong; supply limited; 40% $67, sacked, immediate.

PEAT MOSS

San Francisco: Demand fair; supply ample; $3.75 bale.

Chicago: Demand heavy; supply moderate; $3.75@3.85 standard 7½ cu. ft. bale.

Boston: Demand and supply seasonally steady; $3.15 bale in carlots.

Philadelphia: Demand light; supply fair; $2.98, f.o.b. pier.

Portland: Demand good; supply ample; trend unchanged; $3.25 bale.

Seattle: Demand and supply good; trend steady; $3.25 bale, delivered, truck lots.

Los Angeles: Demand steady; trend unchanged; supply ample; Canadian, 6.1 cu. ft. bales $3.85.

New York: Demand and supply good; trend steady; Canadian, 7 cu. ft. bale, veneer wrapped $3.32, freight prepaid; German 7½ cu. ft. bale $2.97, at dock, New York.

POTASSIUM IODIDE

Cincinnati: Demand good; trend steady; 90% KI in calcium stearate or carbonate mixtures, 250-lb. drums $1.81; 200 lb. in 100-lb. drums $1.83; 25-lb. drums $1.86, f.o.b. Cincinnati.

New York: Trend steady; granular or crystals $1.90 lb. in 250-lb. drums, $1.92 lb. in 100-lb. drums, $1.95 lb. in 25-lb. drums; 90% KI in calcium stearate mixtures, $1.81 lb. in 250-lb. drums or 200-lb. lots, $1.83 lb. in 100-lb. drums, $1.86 lb. in 25-lb. drums; f.o.b. New York, New Jersey or Pennsylvania; freight allowed to destination on 100-lb. drums or larger packings.

POULTRY BY-PRODUCTS

Boston: Demand good; supply tight; $103, f.o.b. plant.

Ft. Worth: Demand good; trend strong; supply very limited; 55% protein, nominal $102.50, f.o.b. north Texas plant.

Atlanta: Demand good; trend strong; supply limited; $102, sacked, immediate.

Los Angeles: Demand good; trend firmer; supply limited; $1.90 a unit of protein.

Salisbury, Md.: Firm trend; good demand; supply limited; $92, f.o.b. plant, sacked.

RIBOFLAVIN

Cincinnati: Trend steady; feed grade (in feed supplements) 4¢ gram in 3.36 to 16 gm./lb. mixtures, freight prepaid or paid to destination.

New York: Trend steady; feed grade (in feed supplements) 4½¢ gram in 3.36 to 16 gm./lb. mixtures, freight prepaid or paid to destination.

RICE BY-PRODUCTS

Ft. Worth: Demand fair; very light offerings; carlots, rice bran, nominal $32@33, prompt shipment, f.o.b. south Texas rice mills; hulls $2, f.o.b. mills.

San Francisco: Demand fair; supply ample; bran $45, polished $49.

Los Angeles: Demand better; supply very limited; trend steady; bran, California production, high fat content $52.

Atlanta: Demand fair; trend steady; supply limited; bran $48.50, sacked, immediate.

SCREENINGS

Denver: Demand slow; trend steady; supply ample; $38.

Minneapolis: Very firm trend; fairly strong demand; short supplies; country run $18@25, light $6@12, mediums $13@20, heavies $21@32; Canadian, bulk $14; Canadian ground $24; flaxseed screenings $24; oil type screenings, 15% basis $37.

Buffalo: Demand good; trend higher; supply fair; ground, sacked $31.50, New York; unground, bulk $24, New York.

Chicago: Demand fair; supply plentiful; ground grain screenings $26.50; Canadian, bulk $18.50.

Cincinnati: Demand fair; trend steady; supply adequate; Canadian $22.50, bulk, Cincinnati.

Ft. Worth: Demand fair; supply sufficient; 12% protein, ground $32, nominal.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

Atlanta: $20.40@20.67.
Buffalo: $25.31@25.45.
Chicago: $24.77@24.90.
Cincinnati: $23.47@23.60.
Des Moines: $25.23@25.35.
Kansas City: $24.88@25.
Memphis: $22.20@22.47.
Minneapolis: $25.92@26.06.
Philadelphia: $24.32@24.45.
St. Louis: $24.14@24.27.

SORGHUMS

Los Angeles: Demand steady; trend firmer; supply tighter; milo $2.62½ cwt., bulk.

Cincinnati: Demand fair; trend steady; supply adequate; $2@2.20 cwt.

Ft. Worth: Demand fair; offerings light; carlots, bulk, No. 2 yellow milo $2.30@2.32, Texas common points.

SOYBEAN OIL MEAL

Kansas City: Demand slow locally; trend steady; supply for nearby supplies are tight from mills but jobbers are selling material; meal for spot Kansas City and western shipment $51@54.50, bulk, Decatur, the lower level being quoted by jobbing interests, for last half April meal is quoted at $51.50@52.50; unrestricted meal of good quality is tight $57.50@58.50.

Denver: Demand fair; trend strong; supply ample; 44% $81.88.

Minneapolis: Very firm trend; fairly strong demand; adequate supplies; $62.25, bulk, Minneapolis.

Memphis: Demand less; trend lower; supply plentiful; prime 44% solvent $58.50, sacked, f.o.b. Memphis.

Seattle: Demand steady; trend strong; supply ample; $85, delivered, carlots.

Los Angeles: Demand good; trend very firm; supply tight; $86.47@87.47.

St. Louis: Demand fair; trend steady; supply tight; $66.

Portland: Demand slow; trend higher; supply limited; $47, f.o.b. Decatur.

Boston: Demand active; supply fair; 44% $53, 50% $62.25, both f.o.b. Decatur and for April shipment.

Louisville: Demand fair; trend strong; supply normal; $69.43.

Philadelphia: Demand and supply fair; 44% $55, bulk, Decatur.

Cincinnati: Demand fair; trend steady to higher; supply fair; $57@58, bulk, Decatur.

Ogden: Supply normal; $31@36.

Ft. Worth: Demand excellent; extremely limited offerings nearby shipment; carlots, 44% $76.50@78.50, depending on origin and tonnage, scattered immediate-April; truck delivery $68, immediate.

Wichita: Demand good; supply ample; 44% $68.50, 50% $79.50, f.o.b. Wichita.

San Francisco: Demand fair; supply ample; $86.45.

New Orleans: Demand good; trend higher; supply limited; 44% $75@75.50.

Chicago: Prices continued to skyrocket during the week, with nearby supplies all but impossible to obtain. Advances of $3.50 ton occurred during the period, and deferred shipments also held to relatively high levels. Quotations: 44% soybean oil meal $67.50@68; for first half April delivery $64.50@65.

Milwaukee: Demand good; supply fair; $53, bulk, Decatur.

Decatur: Demand good; supply tight; 44% bulk, unrestricted $57@57.50; first half April $56, last half $54.50.

Atlanta: Demand good; trend steady; supply ample; 44% $69, sacked, immediate.

TANKAGE

Chicago: Demand good; supply limited; 60% protein $105@115.

Wichita: Demand good; supply insufficient; 60% $117.50, f.o.b. plant.

Ft. Worth: Demand good; supply extremely light; 60% digester $110@115, f.o.b. Ft. Worth.

Cincinnati: Demand good; trend strong; supply short; 60% digester $116.50, sacked, f.o.b. Cincinnati.

Louisville: Demand good; trend strong; supply light; 60% $97.50@102.50.

St. Paul: Firm and even trend; demand off; supplies tight; 60% digester $120@125.

Kansas City: Demand good; trend strong; supply light with kills still limited; 60% digester $115@118, sacked.

St. Louis: Demand good; trend higher; supply tight; $121.

New Orleans: Demand good; trend steady; supply light; 60% $120@122.50.

VITAMIN E FEED SUPPLEMENT

Cincinnati: Demand good; trend steady; any quantity in 100-lb. drums $1.70; in 25-lb. drums $1.75, freight allowed to destination.

New York: Demand and supply good; trend steady; 100-lb. drums $1.70 lb., 25-lb. drums $1.75 lb., f.o.b. manufacturing plants, freight allowed and goods insured to destination.

Rochester, N.Y.: Demand and supply good; trend steady; 100-lb. drums $1.70 lb., 25-lb. drums $1.75 lb., f.o.b. manufacturing plants, freight allowed and goods insured to destination.

WHEAT GERM MEAL

Buffalo: Demand and supply fair; trend steady to higher; commercial grade $63, sacked, f.o.b. Buffalo.

New Orleans: Demand fair; trend steady to higher; supply light; $72@74, cottons.

Chicago: Firm trend; demand good; tight supplies; $69.

Oilseed Meal Futures Show Mixed Trend

MEMPHIS — Oilseed meal futures prices were mixed March 19 at the close on the Memphis Board of Trade, compared with March 12. The only gains were posted in nearby March.

A good demand existed in unrestricted soybean oil meal caused by the prolonged adverse weather in the Midwest. Cottonseed oil meal eased as the result of improved weather over the South and the fact that pastures were in better shape.

Unrestricted soybean oil meal March 19 closed $1.25 lower to 75¢ a ton higher than on March 12. Eastern Trunk Line soybean oil meal $1.25 lower to 75¢ higher bulk solvent cottonseed oil meal 25¢ to $1.25 lower, and sacked old process cottonseed oil meal unchanged to $1.50 lower.

Volume for the period totaled 12,200 tons of unrestricted soybean oil meal, 1,000 tons of ETL soybean oil meal, 600 tons of bulk solvent cottonseed oil meal, and 600 tons of sacked old process cottonseed oil meal.

FIRE DESTROYS ELEVATOR

NEWARK, OHIO — The Licking County Farm Bureau elevator at Newark was completely destroyed by fire recently. Plans for rebuilding are reported to be under way.

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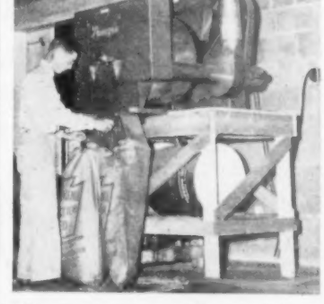

Panogen seed treating is less work, says Pennsylania seed man

"Fast . . . convenient . . . far less work than any other seed treating process we've ever used." That's the way Russell Walker, manager of the Pennsylvania Foundation Seed Cooperative at Jersey Shore, Pa., describes the modern Panogen Process.

Walker, shown above, has used liquid Panogen in his automatic Panogen seed treater for the past two years and feels he's giving his customers the best seed treatment available. "Our customers like it, too," he says.

FEEDER PIGS

(Continued from page 1)

with their feed suppliers both the disease history of their farms and that of the pigs, where possible, in arriving at the proper feeding program. They suggested further that farmers keep in close touch with local veterinarians.

Market Effects Felt

An immediate effect has been felt in prices of feeder pigs both in Iowa and Illinois, with a logical upswing in Iowa and depressing effects in Illinois as a result of pigs being diverted in that direction. Quentin J. Marsh, manager of the Cedar Rapids plant of Hubbard Milling Co., reported a number of farmers in his area have responded to the local demand by selling pigs they earlier had planned to feed out themselves. He noted that general reaction to the embargo had been favorable among farmers who felt the action would aid in holding down the disease problem.

The state agriculture secretary emphasized that the serious situation is confined largely to imported pigs, and that the overall disease picture among local pigs in the state is otherwise normal for this time of year.

Mr. Spry told Feedstuffs March 21 that by the weekend or on March 24 his department will announce a general plan under which farmers themselves would need to request permits to import feeder pigs, instead of the usual procedure by which pig buyers request the permits. Farmers could get the permit and buy the pigs wherever they desired. This, he felt, will give better control over the permits.

The overall problem has developed both with pigs for which permits have been obtained and those brought in illegally. In one prominent case recently, a pig salesman used a permit, good only for one shipment of a few hundred pigs, to make several trips and deliver 2,000 pigs in the state. Every load contained some diseased pigs, said Mr. Spry, and many of these died within a few days.

Since the embargo was put into effect, inspection officials with the aid of highway patrols, have picked up one shipment of 150 pigs entering the state without a permit. The pigs have been confiscated by the department, according to Mr. Spry, pending action on the case.

Wet Corn Factor

The problem was reported to have developed at least in part from the large supplies of wet corn Iowa farmers have on hand and want to put through hogs. The state already had become the No. 1 market for feeder pigs, importing close to 1 million head in 1957, but it was indicated pigs have been coming in from farther away and at a far greater pace than usual, due to this stepped-up demand.

One Iowa feeder pig buyer reported farmers in many cases are buying nondescript pigs "out of the back end of pickup trucks" which have entered the state illegally and often contain diseased pigs which begin dying within a few days. State officials have investigated several cases where from half to three fourths of a shipment of pigs have died within a few days after arrival. Many are traced to a southern origin, due to the type of parasites found upon post-mortem examination.

State regulations require that pigs brought into the state must be accompanied by a permit issued by the state Department of Agriculture. The permit is good for 15 days. However, Iowa currently has no law requiring permits for shipment of pigs, but merely regulations against shipment without permit.

Other Problems

The situation is further complicated by a conflict in prescribed methods of treatment for cholera, the secretary pointed out. A Missouri regulation, for instance, requires that pigs going through the state must be given 30 cc. of cholera serum. Iowa requires that pigs must either be double treated for cholera more than 30 days before shipment or vaccinated with the double treatment after their arrival here and then must be quarantined. In all cases, a certificate issued by a veterinarian at the point of origin of the pigs must accompany the shipment, stating they are healthy pigs.

When pigs treated in Missouri are given the required treatment in Iowa, either with the virus alone or the double treatment, many of them die.

One major feeder pig buyer in Iowa, Lewis (Bob) Leeper of Nevada, reflected the effects of the current embargo this way: "I customarily buy and sell up to 1,500 feeder pigs a week, out of Missouri. Right now, I can't move a pig. I've got back orders for about 15,000 pigs from feeders who are counting on them. Maybe I'll be able to move a few next week, if this embargo is modified somewhat."

Mr. Leeper has been in the pig business nearly 18 years, and follows a rigid sanitation program. His Missouri buyers supply the history and treatment of the pigs, and every load is inspected before it leaves that state.

Empty Feed Lots

He also tells in a dramatic way how it feels to be without pigs, from a feeder's point of view. He operates his own growing and finishing setup near Nevada, normally keeping about a dozen finishing houses filled with as many as 1,200 pigs on feed.

Just before the embargo was announced, he sold the last load of market hogs out of this production-line setup and was ready to refill the houses. "I've got just 30 pigs on feed in one of those buildings, and the rest of them are empty," he said.

Ray Van Poucke, sales manager for the Ames (Iowa) Reliable Products Co., pointed out that attempts to determine the disease history of pigs shipped in from southern states would be merely guesswork. He added, however, that feed men would help farmers determine the disease level on their farms, and that of the pigs, in arriving at recommended feeding programs.

MARYLAND

(Continued from page 1)

fat or pelleted rations with 2% added fat supported slightly better growth than non-pelleted rations with 2% added fat. Increasing fat from 2 to 10% in pelleted feeds did not improve growth rate. Reground pelleted feeds were no better than non-pelleted mash controls. Feed conversion was improved as fat content (nutrient potency) was increased. Rations containing 18% added fat gave feed conversions averaging 1.89 lb. of feed per pound of broiler at eight weeks. At present it is difficult to justify economically the additions of more than 2% fat in pelleted rations in terms of feed cost per pound of broiler produced. If starting rations are in mash form, one can justify up to 5% added fat. Quality observations refute the premise that fat level necessarily influences the amount of fat in the carcass.

In trials with rations containing hydrolyzed poultry feathers, among other animal protein sources, addition of DL-methionine or methionine hydroxyanalogue (MHA — trademark of Monsanto Chemical Co.) did not affect feed conversion or growth as anticipated. It appeared possible that cystine and total sulfur supplied by the rations containing hydrolyzed poultry feathers might spare methionine. Results of further work failed to show a sparing effect of hydrolyzed poultry feathers on the requirement for methionine, and the need for supplemental methionine was apparent only in the rations containing hydrolyzed poultry feathers.

Some work involving methionine, choline and B_{12} levels indicated that addition of methionine improved growth over that from basal rations used, while there was no consistent effect on feed conversion. The research showed the practical importance of supplying sufficient choline (or betaine), particularly in high-fat rations, to satisfy the methyl group requirements.

In some work on C/P ratio and amino acid supplementation, the marked effect of protein quality on level of protein required in a ration was demonstrated.

Practical tests involving additions of zinc and molybdenum did not show improved growth, and feed conversion was not improved significantly.

In a battery trial with a purified type diet, unidentified growth promoting properties of dried egg yolk were studied as related to adequacy of the ration in zinc and potassium. Growth improvements were obtained when 8% dried egg yolk or a combination of .02% zinc chloride and .2% potassium chloride was added. Chicks on the unsupplemented diet developed a high incidence of a hock disorder. Severity was reduced when either of the supplements was added. It appears that either zinc or potassium is required for prevention of this hock disorder in chicks, as has been true of zinc in the turkey.

This work emphasizes the need for adequately determining the role of known nutrients in interpreting the significance of unidentified factor responses. Whether zinc supplementation might be important in certain practical rations remains to be determined as it will depend on zinc content of ingredients involved.

MARYLAND STUDIES WITH LAYING HENS — Dr. G. F. Combs and Dr. N. V. Helbacka, University of Maryland: It seems apparent that many factors may influence the dietary protein requirements of laying hens. Although it is difficult to quantitate the effect of these factors, they still are helpful in interpreting results and projecting the approximate needs for a given situation.

Maryland studies were conducted with Single Comb White Leghorn hens fed diets with various C/P ratios, energy, protein and fat contents. In these studies, C/P ratios of from 55:1 to 66:1 were equally satisfactory in maintaining 56-63% egg production.

Although addition of fat (9% added fat) did not improve the feed conversion to the extent predicted on the basis of increased energy potency of the ration, it did result in a significant improvement in egg size.

Preliminary evidence was obtained that zinc is required for hatchability of fertile eggs as well as for maintenance of egg shell thickness in purified rations. The importance of zinc in practical feeds is under study but cannot be determined at this time.

There was no apparent difference in performance of layers fed all-plant rations as compared with those fed rations containing animal protein from meat scraps and crab meal.

ZINC, POTASSIUM AND UNIDENTIFIED GROWTH FACTORS IN PURIFIED POULT DIETS—Dr. W. C. Supplee, University of Maryland: Poult studies were conducted with higher potassium and zinc levels than had been used in the basal diet used in UGF studies. The basal diet was shown to be deficient in both elements.

The relationshsip of zinc to growth and the beneficial effect of zinc on hocks and feathers were shown in a series of treatments.

Missouri workers have recently described hock and feather disorders in chicks which are prevented by zinc supplementation. Their work, together with the Maryland results with poults, seems to establish that zinc is essential for both bone and feather development.

Results of one test indicate that .4% potassium chloride was about optimum.

Superiority of high potassium and zinc basal ration was shown in a test in which growth rate exceeded by 60% that with the original ration.

Supplementation of the original basal with the ash of 5% distillers dried solubles increased growth 40%, whereas with the modified ration, the response to ash was 7%. These results strongly indicate that the 30-50% ash response obtained in earlier tests was due in large measure, if not entirely, to potassium and zinc supplied by the ash rather than to unidentified elements.

Additional data were obtained when basal rations of adequate potassium and zinc content were supplemented with distillers solubles ash, distillers solubles, a supplement mixture, a water extract of the mixture and with the antibiotic oleandomycin. There was a reduction in response to all the experimental treatments, as compared to previous tests. This was a consequence of the improved growth with the modified basal rations. The supplement mixture extract has given the highest growth of any single treatment, being surpassed only when fed in conjunction with antibiotics. Oleandomycin consistently gave significant growth increases.

Growth rates with the modified basal rations approximated those expected with practical rations, while growth with some of the supplemented rations exceeded practical performance standards.

Considerable work will be required to arrive at a completely satisfactory explanation for growth responses observed with the several treatments. The antibiotic responses indicate that the most important factor limiting growth with the modified basal rations was related to a bacterial stress.

None of the results give clear indication that presently unidentified nutrients were involved in any of the responses. The activity of the extract could be due to an effect on flora analagous to that of antibiotics.

Superiority of the combined antibiotic plus ash and antibiotic plus extract treatments suggests the possibility that the full potential of the antibiotic treatment alone was not realized because some nutrient became limiting as the growth rate increased.

Nutrient levels included in our basal rations may be inappropriate for practical feeding. In the case of zinc particularly, it appears probable that the requirement for practical rations is lower than for the Drackett-sucrose diet.

PRACTICAL STUDIES WITH BROILERS AND TURKEY FRYERS INVOLVING C/P, TEMPERATURE, MINERALS, HORMONES AND FLAVORS—Dr. G. Lynn Romoser and Dr. N. V. Helbacka, University of Maryland (Dr. Romoser is now with Monsanto Chemical Co.): A study was conducted in the summer to determine if better performance of broiler chickens could be obtained by use of starting and finishing feeds containing narrower than usual C/P ratios. It was felt that during hot weather and decreased feed intake, higher levels of protein in relation to energy might be needed. There seemed to be no benefit from use of narrower C/P ratios in the starting and finishing periods. It is possible that moderate temperatures during the finishing period were sufficient to mask the response expected from lower C/P ratios.

In a second experiment, rations with C/P ratios of 35 and 49 were fed from 5 to 8 weeks to birds in batteries in temperature-controlled rooms at 50 and 90°. Both rations were also tested with single and combined additions of iodinated casein and thiouracil. Although similar performance was obtained with both basal rations, birds in the cold environment gained .5 lb. more than birds in the hot environment but consumed .3 lb. more feed per pound of gain. The iodinated and thiouracil treatments had no apparent effect.

A trial was run with poults to deter-

Millfeed Production Shows Increase

Production of millfeed in tons for week ending March 15, and prior two weeks, together with season total of (1) principal mills in Nebraska, Kansas and Oklahoma and the cities of Kansas City and St. Joseph; (2) principal mills of Minnesota, Iowa, North and South Dakota and Montana, including Minneapolis, St. Paul and Duluth-Superior; (3) mills of Buffalo, N.Y. Production computed on the basis of 72.6% flour production.

	—Southwest*—		—Northwest*—		—Buffalo†—		—Combined**—	
	Weekly production	Crop year to date	Weekly production	Crop year to date	Weekly production	Crop year to date	Weekly production	Crop yr. to date
March 9-15	25,211	978,282	14,097	508,713	11,499	390,826	50,807	1,879,821
Previous week	‡25,996		‡13,826		10,297		‡50,119	
Two weeks ago	25,753		14,471		9,986		50,207	
1957	27,407	1,001,271	13,548	513,701	11,074	401,062	52,029	1,916,034
1956	25,846	944,965	13,284	501,630	11,046	341,961	50,176	1,788,556
1955	24,381	932,408	12,438	502,862	11,323	397,237	48,142	1,832,507
1954	23,144	894,610	13,840	535,882	8,741	419,008	45,725	1,849,500

*Principal mills. **74% of total capacity. †All mills. ‡Revised.

mine if addition of zinc, alone or in combination with molybdenum, potassium and selenium, would elicit a response. Lysine was added as a variable in both rations. One basal ration contained no animal protein, while the other contained fish meal and crab meal. There seemed to be improvement in growth rate when birds on the corn-soy basal received .01 and .02% zinc chloride. Improvement was not observed in females on the fish meal-crab meal basal. Addition of .1% lysine also improved growth; there was no additive effect from lysine and zinc. The combination of lysine, zinc, potassium, molybdenum and selenium gave no better results than those from zinc or lysine, alone or in combination. Turkeys generally did better on the animal protein basal than on the corn-soy basal.

A test was conducted with turkey fryers to check the relationship between C/P ratio, stilbestrol implantation and fat. There was improvement in rate of gain of the hormonized turkeys. Rate of gain of birds fed 10% added fat was better than with 2% added fat. Rate of gain was somewhat better with a C/P ratio of 44 than a ratio of 60. Stilbestrol resulted in a higher abdominal fat deposition, liver weight, dressed finish score and increase in amount of drippings during cooking. Stilbestrol was more effective in the presence of a high fat level. Comparison of birds on high and low fat levels did not reveal significant effects on quality. Turkey fryers receiving the ration having different C/P ratios without stilbestrol also were different in quality.

Studies were conducted to determine if the addition of imitation flavors of strawberry, anise and grape would influence the amount of feed consumed by the chick. None of the flavors were effective in improving rate of gain, feed consumption or feed conversion.

IMPROVEMENT IN THE NUTRITIONAL VALUE OF CEREAL GRAINS BY WATER TREATMENT AND ENZYME SUPPLEMENTS — Dr. James Mc Ginnis, Washington State College: Following the demonstration that water treatment of barley or additional amylolytic enzymes to diets containing barley markedly improved nutritional value, additional experiments have been conducted.

One of the studies showed that water treatment is effective even when the chick diets contain high levels of added fat. In another study there was a response to water treatment at various levels of protein.

Research results have shown that enzyme action is responsible for the improvement in nutritional value when barley is water-treated.

Other studies have shown that water treatment reduces the amount of moisture in feces and improves dry matter digestibility of barley.

Experiments on enzymes have shown that some amylolytic enzymes of both plant and animal origins are ineffective in improving nutritional value of diets containing barley. In contrast, enzymes produced by both bacteria and fungi and standardized for amylolytic activity have been found to be about equal in activity.

In our experiments we have observed that fungal enzymes appear to lose their stimulating effect on feed efficiency as birds grow older. The stimulating effect on growth appears to be unaffected.

Generally there has been little or no effect of pelleting on growth and feed efficiency response to added enzyme.

Some reports from other parts of the country have indicated very little response to enzymes added to diets containing barley. Generally, the barley in such experiments has given growth and feed efficiency results comparable to corn. In contrast, we have always found barley to be much inferior to corn. Because of variations from laboratory to laboratory, we studied nine different samples or variations of barley. All samples gave similar growth and feed efficiency, and all samples responded to enzyme supplementation.

Water treatment has been somewhat more effective than dietary enzyme for improving chick growth and feed efficiency.

STUDIES ON NUTRITION OF LAYING HENS—Dr. James McGinnis, Washington State College: Experiments on vitamin A have demonstrated that this vitamin has an influence on incidence of blood spots in eggs. This effect is particularly pronounced when levels of the vitamin become marginal or slightly deficient. Some experiments, however, have shown that increasing the level of vitamin A above the generally recommended amount decreased the number of blood spots.

Generally, results of a number of experiments have shown that energy level of the diet does not materially affect rate of egg production. Instead, energy level has a marked influence on feed conversion.

Observations have been made on the influence of varying the protein and energy in diets for laying hens. It appears that a similar relationship between these two nutrients exists for laying hens, as has been demonstrated for growing birds. However, this relationship does not seem to be as critical for layers as for chicks.

MINERAL NUTRITION OF POULTRY AND SWINE — Dr. George M. Briggs, Nutrition Section, National Institutes of Health: Recently two more minerals—molybdenum and selenium—have been shown to be required by animals under certain dietary conditions. Also, renewed interest has been shown in zinc and iron.

Molybdenum: Under normal conditions there appears to be no need for supplementary molybdenum in practical swine or poultry rations.

Bromine: There is no need to add bromine to practical feeds for swine or poultry according to present knowledge.

Selenium: There is no evidence at present that practical feeds for animals require added amounts of selenium under any conditions, with or without vitamin E.

Zinc: Under practical conditions the requirement of swine for zinc may be as high as 40-60 ppm. Under certain conditions, the requirement of chickens and turkeys for zinc is higher than previously thought.

Iron: Preparations of iron-dextran complex may be injected in baby pigs (in one dose) before weaning age to safely supply iron for several weeks.

Iodine: Of special interest is development of stable preparations for practical feeds and mineral mixtures.

Calcium and phosphorus: Studies are still appearing on availability of various forms of calcium and phosphorus. A recent study from Guelph with chickens, indicates "colloidal phosphate" can be used to supply a part of the phosphorus requirement but not as the sole source. More studies on calcium and phosphorus availability are needed.

Unidentified minerals: There may be "unidentified minerals" essential for poultry and swine, but the evidence for this is relatively poor. Nutritionists are taking another look at the adequacy of their experimental diets in known minerals and other nutrients. The investigator and feed man should not be too hasty in accepting reports of a new essential mineral.

DO MODERN BROILERS TASTE BETTER?—A. W. Brant, U.S. Department of Agriculture, Beltsville, Md.: Feed is not a primary factor in flavor of broilers. Feed can be the cause of off-flavors, but there is no convincing evidence that feed enhances or detracts from normal chick flavor to any measurable degree. Flavor is just one factor in overall acceptability — others are odor, tenderness, texture, juiciness, appearance and uniformity.

In a USDA study, slow-growing chickens were raised on a 1930 formula and compared for flavor with rapidly growing chickens raised on a modern diet. Flavor panels were unable to detect any differences by several cooking methods.

One aspect of a major change in the poultry industry in recent years is the reduction in New York style dressed poultry and the increase in processing plant evisceration. There are also more and better refrigeration and faster movement in market channels. Pronounced flavor changes in New York dressed poultry are known to occur in relatively short periods.

Do broilers taste different than the way they used to? Do they taste better? You be the judge.

(A review of swine and ruminant nutrition talks will appear in next week's Feedstuffs.)

MARKETS

(Continued from page 2)

chick starter business is expected this year by nearly all feed men in this area.

The starter business is showing a gradual acceleration now, on chicks, pigs and poults, the latter being the slowest since turkeys are going to be later this year. Regular hog feeds continued to be excellent sellers. Beef cattle rations were in better demand, partially because of bad weather in the northwestern region.

Generally, cattle feed volume was running well behind a year ago. Egg feed and dairy business continued at a steady pace.

Running time this week will be 5 to 6 days, two to three shifts, with most mills at five days, two shifts. Special sales programs with a time element as a factor are causing some mills to run better than average. Prices are expected to be unchanged to down $1, the decline being mostly on millfeed, grain and soybean meal.

Southeast

Feed business slowed during the week, due primarily to increased feed prices which many said buyers were resisting. Generally mild weather has prevailed over most of the area and weather has remained good over Florida and the southern part of the territory, enabling further improvement in early pastures.

Baby chick placements in the north Georgia producing section were holding at record levels, and broiler prices have held steady at about 21¢ lb. Other livestock prices have been rising so that feeding ratios were comparatively good.

Feed demand was particularly good in the southern half of the Florida peninsula where the 50% rail freight reductions are in effect for the disaster area due to the unusually bad freezing weather experienced this season. As a result of the reduced freight rates, there was considerable beet pulp moving into the territory on disaster freight rates at delivered prices considerably lower than has been seen on beet pulp for many years.

Feed ingredient prices to the mixed feed manufacturer had been strong for most all items until late in the week when a slight softening was noticed in asking prices. Citrus pulp processors were beginning the late season production, and most producers reported that running time will be extremely short. Where some larger processors ran as late as July 15 last season, it is expected this year that the producing season will come to an end by May 1. Supplies are expected to be short over the nonproducing season, and most sellers are urging their customers to take as much citrus pulp as possible while the plants are running in order to alleviate the shortage as much as possible. Cottonseed meal supplies are extremely short within the Southeast, and there have been instances recently where Texas meal has been shipped into the territory in order to fill demand. Most purchasing agents for feed manufacturers reported that their requirements were booked for the nearby position and they have taken a wait-and-see attitude before taking on additional supplies. Many were of the opinion that particularly protein supplies should decline in price after recent strong advances.

Northeast

Consumer resistance to high prices slowed formula feed sales after a fairly good turnover in the previous week. Bran and middlings tumbled in the wake of the trend. However, an alleviating factor was the better prices commanded by eggs and broilers.

Manufacturers have changed their formulas somewhat to meet the current price setup, one trade source said. And, he added, farmers are also switching their feed patterns according to their individual supplies.

Egg mashes were well taken during the week, especially super laying mashes. Dairy feeds were also in demand, with concentrates moving in good volume. Broiler and starter feeds trailed these leaders.

Broiler prices held steady and in some instances advanced. Prices in the East were at a growers' profitmaking level of 21@22¢ lb. The better tone to the market has not brought a flood of offerings because supplies have been held down by winter mortality.

Egg prices were going up with the approach of Easter and the market was firm.

Some ingredients continued to rise, particularly the animal proteins, but grains were easy.

Running time of formula feed manufacturers averaged 40 hours, with one mill up to 58 hours to offset production losses in one of its units.

Ohio Valley

With the Ohio Valley experiencing the most protracted winter weather in a decade or more, combined with an aggressive build-up of flocks and herds on valley farms, demands for formula feeds continue at a pace well ahead of that for the similar spring period in many years.

Temperatures in the 20's and frequent snow flurries highlighted the weather situation again during the week, making it impossible for area farmers to start their customary spring activities and, at the same time, continue the necessity for undercover feeding. With the wet corn and other carry-over farm feeds now being rapidly depleted, the demand for formula feeds was increasing despite advancing prices.

In this connection, increasing sales of hay were noted and, despite reportedly adequate supplies, prices advanced $2@3 ton, in line with price

advances for numerous other feeds.

Receipts at area stockyards continued insufficient to meet the present active demand, with steadily increasing prices resulting. Choice grain-fed steers reached $28.50 cwt. at Cincinnati Union Stockyards, the highest price in more than five years. Poultry and eggs likewise were reported in short supply at area wholesale markets, with prices holding steady to somewhat higher.

All this, it was believed, will help maintain, and very likely improve, the demands for formula feeds during coming weeks.

Central States

Feed manufacturers were wearing wide smiles during the week ending March 19, and the cheerful appearance reflected a continuation of booming business for the period. March tonnage, reports indicate, can be expected to reach record proportions, and the first and second months of 1958 also produced some phenomenal outturns.

Feeding ratios, observers said, were good for most classes of livestock, and this encourages feeding. One cloud on the horizon starting to furrow some brows was the spectre of a rapid runup of ingredient prices which was reflected in finished feed quotations. Some resistance was being met at the consuming level already, and feed manufacturers are balking at some ingredient asking prices. However, scarcities exist for some products, and near-by supplies are tight in some cases.

Unless high prices trim volume, some forecasters predict continuing good business until July — and some for even the complete calendar year. "What recession?" they were asking, noting comments on the downturn in other segments of the economy. It was felt in some quarters that the feed industry, and perhaps agriculture as a whole, has had its adjustment in the "rolling" readjustment, and that the upturn now being experienced might continue.

Pacific Northwest

Feed ingredient markets were moderately active during the past week with prices still on the mixed side.

Wheat millfeed listings ranged from 50¢ to as much as $1.50 ton lower than a week earlier, while soybean meal and animal protein feed prices strengthened further. Meat scrap prices advanced some $7.50 ton to the season's highest level while soybean values gained around $3 ton. Fishmeal prices remained firm and mostly unchanged.

Feed grain listings appeared unchanged with a firmer undertone due to limited corn and milo supplies.

Most feeders and feed mixers continued to purchase feed supplies for nearby needs only.

Volume movement of formula feeds was fully maintained with a brisk demand for broiler feeds and a good overall poultry feed call. Quotations for high energy feeds edged slightly higher at most quarters because of continued price gains for soybean meal and animal protein feeds.

Portland and Seattle egg and live chicken prices held unchanged. North Portland livestock market values for choice grade fed steers hit a new seasonal high of $29 cwt., highest mark since November, 1952, when nine head of central Oregon potato-fed steers hit this mark.

California

Demand for formula feeds was steady to somewhat better this past week. Egg prices averaged about 1½¢ higher with limited offerings and surplus stocks appeared to be at a minimum. Receipts of live poultry were light to moderate and prices were slightly higher. Ice packed fryers were steady at 36½ to 38¢.

Animal proteins continued to be in very short supply and the demand was brisk which led to still further price advances over the preceding week. Meat scraps traded at $2.10 to $2.15 per unit for local production and as high as $2.35 on out-of-state material. Local processors were unable to supply the demand.

Blood meal was very scarce and was quoted at $7.50 to $8 per unit of ammonia. Fish meal remained steady at $2.10 to $2.15. Other proteins showed little change except soybean oil meal which was short for closeby positions and the market moved up another $2 per ton.

Demand for ingredients from livestock feeders remained restricted with California pasture and range conditions at March 1 at 93% of normal. The result was unusual quantities of green feed available. This was the highest March rating since 1935. A year ago it was 73%.

It was reported that shipments of cattle from New Zealand were due to arrive at west coast ports sometime this spring to help overcome the shortage of beef cattle. They would move into custom feed lots for further fattening before marketing. No figures were available as to the total quantity expected to move under this program.

South Central

So far this month formula feed business seems to have been running about 5% behind the rate marked up February. Most of the mills have shown a very modest let-down in production, generally indicated by their reduction of their overtime runs. But some have found it necessary to shut down entirely one day this week. Order back-logs are very slim and mills are running very close to a hand-to-mouth basis.

Feed dealers have been buying carefully and not adding to their inventories as they did last month. There were no reports that sales to feeders are on the downgrade. The loss of mill sales was attributed entirely to the dealer tendency to work down their own stocks rather than replace at the considerably higher prices now in effect.

Concern has been expressed that the high cost of animal protein might restrict the use of hog concentrates, however just the opposite seems to have taken place. Interest in hog supplements showed no sign of slackening, and with the seasonal upturn of sow feeds and pig starters now taking place, hog feeds continue to be the mainstay of mill production.

Chick starters, although showing mild improvement over the previous week, have not moved in the volume expected a few weeks ago, while egg mashes found a reasonably good demand.

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Abbott Laboratories 22
Aeroglide Corporation .....
Agri-Tech, Inc. .....
Alabama Flour Mills .....
Albers Milling Co. 54
Albumina Supply Co., Inc. .. 89
Allied Chem. & Dye Corp. Nitrogen Division .....
Allied Mills, Inc. 106
Amburgo Co., Inc. 10
American Agri. Chemical Co.. 60
American Cyanamid Co. ...42, 43
American Dehydrators Assn...
American Elec. & Grain Div... 77
American Mill Serv. Co. ....
Anchor Serum Co. .....
Anderson Box Co. .....
Andersons, The .....
Anderson, V. D., Co. 27
Andrews Machine Co. .....
Arbor Acres Farm 29
Arcady Farms Milling Co. ..
Archer-Daniels-Midland Co. ..
Arco Dehydrating Co. .....
Arkell & Smiths .....
Armour & Co. 33
Aubrey Feed Mills .....

Baker, H. J., & Bro. .....
Baker, J. T., Chem. Co.... 48
Barker, Moore & Main Co. ..
Barnard & Leas Mfg. Co., Inc. 28
Bartlett, C. O., & Snow Co.. 95
Barton Salt Co., The .....
Bates Grain Co. .....
Baughman Mfg. Co., Inc. ....
Baxter, A. E., Engineering Co. 32
Bemis Bro. Bag Co. 53
Berg, Paul .....
Bigelow Sales Co. .....
Black, Sivalls & Bryson, Inc...
Blatchford Calf Meal Co. 35
Blomfield-Swanson .....
Bonewitz Labs., Inc. .....
Borden Company 17
Bosworth Commission Co. .....
Bowman Feed Prod., Inc. 72
Bremco Alfalfa Mills, Inc. 90
Brewers Yeast Council, Inc...
Brower Manufacturing Co.. 21, 66
Brown, Fred G., Pulv. Co. ...
Bruce Milling Co. .....
Bryant Engineering Co. 40, 41
Burlap Council, The .....
Burrell, James H., & Co., Inc.
Burrows Equipment Co. 101
Burrus Feed Mills .....
Butler Chemical Co. 69
Butler Mfg. Co. .....

Calcium Carbonate Co. 34
California Pellet Mill Co. ....
Canadian Peat Moss, Ltd. ....
Caple, A. B., Co. 62
Cargill, Incorporated 23
Carson Foods .....
Chambers, John C., Co. .....
Champion Portable Mill Co... 11
Chanlund Mfg. Co. 35
Chase Bag Co. 50
Checkerboard Grain Co. 81
Chemo Puro Mfg. Corp. ....
Chicago Feed Ingredient Co.
Citrus Processors Assn. ....
Cleveland Vibrator Co., The.. 50
Clinton Corn Processing Co. ..
Clofine, Herbert K. 80
Colby Milling, Inc. 93
Collier Livestock-Feeder Co...
Colonial Poultry Farms 85
Columbia Phosphate Co. 54
Columbia Quarry Co. 28
Columbian Steel Tank Co. ....
Commercial Solvents Corp. ...
Consolidated Blenders, Inc... 67
Continental Grain Co. 101
Continental Steel Corp. .....
Corn Products Sales Co. 77
Coronet Phosphate Co. 9, 79
Crete Mills 70
Crittendon, K. S., of Georgia, Inc. .....
Cromwell Paper Co. 80
Crown Zellerbach Corp. .....
Cummings Schooler Co. .....

D. C. A. & Co. 44
Daffin Mfg. Co. 73
Dannen Mills, Inc. 32
Davis, H. C., Sons Mfg. Co.. 97
Dawe's Laboratories, Inc. 63
Day Company, The .....
Daycom, Inc. .....
Decatur Elev. Co. 97
Dehydrating Process Co. .....
Delaware Poultry Laboratories
Devold, Peder, Oil Co. 32
Diamond V. Mills, Inc. 44
Distillation Products Industries 74
Distillers Feed Research Council 71
Doane Agricultural Serv., Inc.
Doane Feed Products Co. ....
Dorsey Trailers .....
Doty Laboratories .....
Douglas Chemical Co. .....
Dow Chemical Co. .....
Duplex Mill & Mfg. Co. 68
DuPont de Nemours & Co., Inc., E. I. 20, 21

Early & Daniel Co. .....
Eastman Chemical Prod., Inc.
Ehrsam, J. B., & Sons Mfg. Co., The .....
Elam Grain Co. .....
Entoleter Division, Safety Industries, Inc. .....
Erie Mfg. Co. 94
Eschenheimer, Rudy, Co. ....
Eshelman, John W., & Sons..
Ewing, Ray, Co. 20

Farmers Mutual Hail Ins. Co. of Iowa .....
Feed Service Corp. 29
Fischbein, Dave, Co. .....
Flavor Corp. of America 3, 27
Flour Mills of America .....
Food Mach. & Chem. Corp...
Forster Mfg. Co. .....
Fox Co. 61
Fox Valley Milk Feeds, Inc...
Fruen Milling Co. 7

Georgia Peanut Co. .....
Glidden Co. .....
Gold Kist Peanut Growers ...
Gorton-Pew Fisheries 102
Grace Chemical Co. .....
Grain Processing Corp. 91
Grand River Chem. .....
Griffith Labs., Inc. .....
Gump, B. F., Co. .....

Hales & Hunter Co. .....
Hallet & Carey Co. .....
Hand, Pater, Foundation 97
Hardy, H. E., & Co. .....
Hardy Salt Co. .....
Harris-Crane, Inc. .....
Harshaw Chemical Co. .....
Hayes and Stolz Co. 14
Haynie Menhaden Prod., Inc...
Heard-Kinard-Smith, Inc. ....
Heck, Edward J., & Sons Co..
Heil Co., The 15
Heim Manufacturing Co. .....
Henderson Mfg. Co. .....
Hercules Powder Co. .....
Hess & Clark, Inc...55, 56, 57, 58
Heterochemical Corp. 15, 48
Hilltop Laboratories 24
Hoffman-Taff, Inc. 77
Hogenson Const. Co. .....
Hogg, N. D., Ltd. 29
Holt Products Co. .....
Homer Mfg. Co., Inc., The ..
Honeggers' & Co. 44
Honeymead Products Co. 52
Howes, S., Co., Inc. .....
Hubbard Milling Co. .....
Hubbell, Charles H. 77
Hygeno Litter Co. .....
Hy-Line Poultry Farms .....

Ibberson, T. E., Co. 85
Illinois Soy Products Co. .....
Indian Jute Mills Assn. .....
Industrial Commodity Corp...
Industrial Molasses .....
International Harvester .....
International Machinery Development Corporation ..
International Minerals & Chemical Corp. 25, 26
International Paper Co. .....
International Salt Co., Inc...
Iowa Limestone Co. .....

Jackson, Gilbert, Co., Inc. ..
Jacobson Machine Works 75
James Mfg. Co. .....
Jersee Co. 40
Johns-Manville .....
Jones-Hettelsater Const. Co.

Kansas Soya Prod. Co., Inc...
Kass & Company 22
Kellogg, Spencer, & Sons, Inc. 66
Kem Mfg. Co. .....
Kemp, C. M., Mfg. Co. .....
Kent Feeds .....
Kent, Percy, Bag Co., Inc...
Keystone Steel & Wire Co. ..
Kindstrom-Schmoll Co. .....
Koelsch, Charles J., Grain Co.
Koppers Co., Inc. .....
Kraft Bag Corp. 70
Kraft Foods Co. 28
Kuss, R. L., & Co., Inc. 60

Laboratory Construction Co...
LaBudde Feed & Grain Co... 22
Land O'Lakes Creameries, Inc.
Landers Mill Mfg. Co. 10
Lauhoff Grain Co. 61
Leftwich, J. H., & Co., Inc...
LeGear, Dr., Inc. .....
Levens Mfg. Co. .....
Lilly, Eli, & Co. 65
Linck, O. E., Co., Inc. .....
Lima Armature Works .....
Limestone Products Corp. of America 76
Loncala Phosphate Co. .....
Longhorn Eng. Co. .....

M-G-R Feed Co., Inc. .....
McCabe Grain Co., Ltd. ....
McKesson & Robbins, Inc. ...
Magnus, Mabee & Reynard ..
Maney Bros. Mill & Elev. Co. 4, 102
Marco Chemical Co. 41
Martenis, C. J., Grain Co... 95
Martin, Theo. W., & Son ...
Mayo Shell Corp. 14
Melos Mfg. Co. .....
Merchants Chemical Co., Inc.
Merck & Co., Inc. 12, 13
Mid-Continent Grain Co. 40
Midland Western 101
Mid-West Business Exchange.. 96
Midwest Dried Milk Co. 46
Milbrew Co. .....
Mill & Elevator Co. .....
Miller Manufacturing Co. ....
Miller Publishing Co., The ..
Milligan & Son .....
Minneapolis Sewing Mach. Co.
Minnesota Linseed Oil Co. .. 75
Minnesota Specialty Co., Inc. 38
Monsanto Chemical Co. 81
Mooers Mfg. Co. .....
Morton Salt Co. 87
Munson Mill Machinery Co. ..
Murphy Products Co. .....
Myers-Sherman Company ....

Nagel, Herman, Co. 70
Natl. Alfalfa Dehydrating & Mlg. Co. .....
Natl. Cottonseed Prod. Assn., Inc. .....
Natl. Distillers Prod. Co. 38
Natl. Molasses Co. 38
National Oats Co. .....
National Renderers Assn. 75
National Turkey Federation Underwriters .....
National Vitamin Products Co. 97
Nellis Feed Co. 82
New Century Co., The 52
New England By-Prod. Co. 102
Nichols Incorporated .....
Nitrogen Div., Allied Chem. & Dye Corp. .....
Nootbaar, H. V., & Co. .....
Nopco Chemical Co. 90
North American Dodgen Co...
North American Trading & Import Co. 24
North Carolina Granite Corp. 62
North East Feed Mill Co. 22
Northwest Brewers Yeast, Inc.
Nutrena Mills, Inc. 23

Oakes Mfg. Co. 78
Olavarria & Co., Inc. 59
Olson Mill & Elevator .....
Omega Machine Co., Div. of B-I-F Industries, Inc. ...
Oyster Shell Corp. 94
Oyster Shell Prod. Corp. 48

Pabst Brewing Co. .....
Pacific Processing Corp. ....
Panogen, Inc. 7, 102
Paper-Calmenson & Co. 16
Park, Philip R., Inc. .....
Parks, J. P., Co. 7
Parrish & Heimbecker .....
Parrish, N. K. .....
Patton Processing Co., Inc. .. 97
Pay Way Feed Mills, Inc. ....
Peavey, F. H., & Co. 59
Pearless Equip Co., Inc. ....
Penick, S. B., & Co. .....
Pfizer, Chas., & Co. .....
..... 14, 36, 37, 95
Phelps Dodge Refining Corp...
Pillsbury Mills, Inc. .....
Pittsburgh Plate Glass Co. ..
Pless & Sheahan .....
Prater Pulverizer Co. 39
Pratt Bros. Co. 101
Pratt Labs., Inc. .....
Premier Peat Moss Corp. ....
Productive Acres Mfg. Co...
Progress Products Co., Inc...
Publicker Industries, Inc. 86

Quaker Oats Co. .....

Ralston Purina Co. .....
Rapids Machinery Co. 59
Raymond Bag Corporation .. 83
Read, Gladwin A. .....
Red River Alfalfa Co. .....
Red Star Yeast & Prod. Co... 89
Regniers, Emile, Co. (U.S.A.), Inc. .....
Reliance Feed Co. .....
Rhinehart Co. .....
Richardson, James, & Sons.. 59
Richardson Scale Co. .....
Riley Feed Co. .....
Rion Crush Stone Corp. ....
River Rest Turkey Sales, Inc..
Rohloff Bros., Inc. 76
Roskamp Huller Mfg. Co., Inc.
Rosner-Hixson Laboratories ..
Ross Machine & Mill Supply ..
Ryde & Co. 52

Safety Industries, Inc. .....
St. Regis Paper Co. .....
Salsbury's, Dr., Labs. 98
Scanlan, Ivan, & Co. .....
Schenley Distillers, Inc. 82
Schroeder Sales Co. .....
Schuster-Wise Gr. & Feed Co.
Schutte Pulverizer Co., Inc... 61
Scroggins Grain Co. 72
Seagram, Joseph E., & Sons, Inc. 49
Seco, Inc. .....
Sedberry, J. B., Inc. 47
Seedburo Equipment Co. 78
Sheahan, Robert F. .....
Shellbuilder Co. 33
Shell Chemical Co. .....
Shuford, J. C., Co. 94
Sievert, C. W., & Associates 88
Silmo Chemical Corp. 78
Simonsen Mfg. Co. .....
Sioux Products Co. .....
Small, The W. J., Co. .....
Smith, Edward E., & Co. .....
Soft Phosphate Research Inst.. 86
Southwest Mill Supply Co. ..
Sparks-Waters-Farnen, Inc. ..
Special Products, Inc. .....
Specifide, Inc. .....
Spencer Kellogg & Sons, Inc.. 66
Sprout, Waldron & Co., Inc... 88
Squibb, E. R., & Sons .....
Stabilized Vitamins, Inc. .....
Staley, A. E., Mfg. Co. 19
Staley Milling Co. .....
Standard Brands, Inc...52, 75, 82
Standard Feed & Fert., Inc...
Stauffer Chemical Co. .....
Stephens-Adamson Mfg. Co...
Sterwin Chemicals, Inc. 5
Stone Mountain Grit Co. ...30, 31
Strong-Scott Mfg. Co. .....
Sunset Feed & Grain Co. .. 89
Superior Feed Co. .....
Swanson, Carroll, Sales Co...
Swift & Co. 51
Syntha Lab. .....

T. D. F. Company .....
Tamms Industries .....
Taste Engineering, Inc. .....
Thayer Scale & Eng. Corp...
Thomer Equipment Co. .....
Thompson Printing Co. 11
Ti-Co Industries 102
Tobias Enterprises 94
Toxite Laboratories .....
Truck Grain Blower Co. .....

Ultra-Life Laboratories, Inc... 27
Union Bag-Camp Paper Corp.
Union Special Machine Co. ..
U. S. Industrial Chem. Co... 29
Universal Hoist Co. .....
Upjohn Company, The .....

Van Dusen Harrington Co. .. 59
Vantress, Chas., Farms, Inc...
Van Waters & Rogers, Inc...
Vineland Laboratories, Inc. ..
Vitamins, Inc. 93
Vita-Vex, Inc. .....
Vitron Corp. .....
Vy Lactos Laboratories, Inc...

W-W Grinder Corporation .. 22
Wallace & Tiernan Inc. .....
Walsh Grain Co. .....
Warren-Douglas Chemical Co.
Waller, B. I., Co. .....
Wells, Ralph, & Co. .....
Wenger Mixer Mfg. Co. 32
Wertz Feed Co. .....
Western Condensing Co. .....
Western Yeast Co. .....
White Shell Corp. 19
Whitmoyer Laboratories, Inc.. 45
Wilhoit Laboratory .....
Wilson & Co., Inc. 35
Wilson, R. S., Co. .....
Wirthmore Feeds .....
Wisconsin Alumni Research Foundation .....
Woodward & Dickerson, Inc... 81

Young, John F., Co. .....
Younglove Construction Co...

Zellers' Laboratories 95

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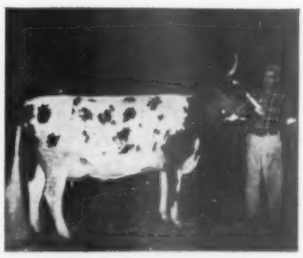
Allied Mills, Inc., makers of Wayne Feeds, take great honor in presenting some of the outstanding winners of this year's Pennsylvania Farm Show.

RESERVE GRAND CHAMPION AYRSHIRE COW

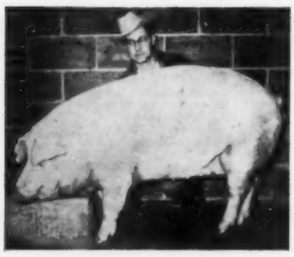
The Masonic Home Farms at Elizabethtown, Roy Boutwell, Herdsman, showed this Champion. This farm entered nine head of Ayrshires which won fourteen ribbons. Their milking ration is made up of Wayne 32% Dairy Supplement and Wayne Sweet Bulky.



FIRST PLACE BERKSHIRE

(Vocational Class)

Gerald Dotterer, Brookview Farms, Lenhartsville, showed this winning gilt. The Dotterers have used Wayne Feeds for 20 years. Says Gerald, "We have the second highest number of qualified Berkshire litters in Production Registry in Pennsylvania. We are proud of this and feel it speaks well for our meat type hogs and Wayne Feeds."



GRAND CHAMPION CHESTER WHITE

Woodrow Walbert, Old Furnace Farm, Alburtis, is shown with his Champion Female, Quibilee the 3rd. This gilt was also first in the senior class. Wayne Sow and Pig Supplement, Wayne Calfnip Milk Replacer, Wayne Tail Curler, and Wayne Hog Balancer are the feeds used on this farm. Woodrow buys his feed from Earl A. Walbert, a Wayne Dealer for 30 years at Mertztown.

ANOTHER PENNSYLVANIA WAYNE-FED WINNER

George and Leo Graybill, McAlisterville, show their Leghorn Champions. Graybill Leghorns received the 1957 Poultry Tribune trophy for having highest average production among all breeders entering five or more pens in standard egg-laying contests. They won first in Pennsylvania, and first and third in New York. They have fed Wayne 17 years and recommend it for its high quality and good egg production.

GRAND CHAMPION STEER

Lee Sweigard, Halifax, is shown with his Polled Hereford which was the Grand Champion Steer at the 1958 show. This 1,035 pound steer brought $2.02½ per pound for a total of $2,095.87½, *the highest amount ever paid in a Pennsylvania Farm Show.* Lee started the steer on Wayne Calf Starter and Wayne Fitting Ration, fattened on Wayne Sweet Mix Pellets, Fitting Ration, corn, and barley. Lee's Wayne Feeds come from his uncle, William Sweigard, Jr., a 13-year Wayne Dealer at Halifax.

GRAND CHAMPION CORNISH MALE

In the Poultry Department, Harry Aurand, McClure, showed a Standard White Cornish Male that was named Grand Champion of the Show. This is the third year Mr. Aurand has won a championship at the Farm Show. He purchases Wayne from the Maitland Roller Mill, Lewistown.

GRAND CHAMPION JERSEY COW

Meryl Sheaffer, Huntsdale Stock Farms, R.D. 4, Carlisle, is shown with the junior yearling that was Grand Champion. She was also Junior Champion in the open class and Grand Champion in the 4-H Class. She is a 4-H animal which was shown and is owned by Mr. Sheaffer's daughter, Margaret. This was the first time in the history of the Farm Show that a heifer was both 4-H Champion and Grand Champion of the breed.

GRAND CHAMPION JERSEY BULL

The Huntsdale Stock Farms also showed the Grand Champion Jersey Bull at the Farm Show. Meryl Sheaffer is shown here with the Champion which was also judged first prize senior yearling and junior champion. Mr. Sheaffer has been feeding Wayne for 17 years. He Uses Wayne Calfnip, Wayne Calf Starter, Wayne Calf Supplement, Wayne Sweet Mix and Wayne 32% Dairy Supplement. Eberly's Wayne Feed Supply at Carlisle is his dealer.

MERYL SHEAFFER'S JERSEYS WIN MANY OTHER HIGH AWARDS

Besides the two Grand Champion Jerseys, Huntsdale Stock Farms showed a two-year-old cow that was Senior Champion Jersey in the open class, first prize in both open and 4-H class, and second place in fitting and showing. This two-year-old is also owned and was shown by Margaret Sheaffer. These two cows, the Grand Champion and the Senior Champion, placed above two past Grand Champions in the 4-H class and above two past Grand Champions in the open class. In addition, Mr. Sheaffer's Jerseys won eleven 1st prizes, four 2nd prizes, three 3rd prizes, two 4th prizes, one 5th, and one 6th prize.

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